





## THE PROGRESS OF MINING IN 1855.

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## BEING THE TWELFTH ANNUAL REVIEW.

Many circumstances have occurred in 1855 to render it one of the most important years in the annals of mining; for, whether we now regard the prosperous state of our home mines, the remunerative prices of metals, the large amount of dividends declared, the great advance in the price of shares in general, or the buoyancy of business transactions, they form a great contrast to the year 1854, which at this time twelvemonths was described as one of "unparalleled depression, and of almost unparalleled losses," and also to many previous years. Good, however, sometimes comes out of evil; and the principal cause of the mischief of 1853 and 1854—the number of new mines introduced to the public, and the heavy calls made to work them, made it imperative that many should be abandoned, which was done at great loss, it is true;—but their stoppage enabled many persons to breathe more freely, and to turn their attention to dividend mines, and to those which were progressing towards a profitable state.

The present prosperity of mining is to be attributed, in a great measure to the high standard of copper, and the good prices obtained for lead and tin ores, and also, in some degree, to the excellent discoveries made during the year, and to the important improvements in many mines, which will be more particularly referred to, under their separate heads, hereafter. And let us hope that, with the cause of the panic of previous years before us, we shall not again have to deplore the advent of too many young and speculative adventures.

The formation of the "Mining Exchange," with the greater security thereby given to share transactions, and the publication of a daily Official List of purchases and sales, which had never before been attempted, though loudly called for, has also had great influence with the public; and many capitalists, during the year, have sold out of railways which do not pay, and have invested in mines which do.

In giving the returns of metals, I am not able, as I also stated last year, to present them to the close of the year, as they are not yet made up. The copper returns for the 12 months ending June 30, are—Ore sold in Cornwall, 188,969 tons, yielding 12,241 tons 18 cwt. of fine copper, and 1,212,686 lbs. in money; in Wales, 39,418 tons of ore, yielding 3,251 tons of copper, and 573,507 lbs. in money; making a total of 1,786,193 lbs. During the previous 12 months, the number of tons sold in Cornwall was 11,779, yielding 1,153,756 lbs. 3s. 6d.; and in Wales, 4748 tons, yielding 508,927 lbs. 17s.; total, 1,662,683 lbs. 9s. 6d. The increase, therefore, during the 12 months ending June 30, as compared with the corresponding 12 months of last year, is as follows:—Cornwall, 8282 tons of ore, 462 tons of fine copper, and 18,930 lbs. 4s. 6d. in money; Wales, 3262 tons of ore, 533 tons of copper, and 61,677 lbs. 7s.: total increase of money realised, 121,507 lbs. 11s. 6d. The average produce—that is, the quantity of fine copper in the ores per cent.—has been, in Cornwall, 6½; average standard, or price of the copper in the ore (less returning charges, &c.), 141½. 10s.; average price per ton of ore received by the miners, 6½. 8s. 6d. During the quarter ending Sept. 29, 49,106 tons of ore have been sold in Cornwall, realising 332,628 lbs. 8s. 7d.

The quantity of lead ores raised in England, in 1854, was 64,796 tons, yielding 44,986 tons of lead, and 419,824 ounces of silver: showing a considerable increase over the previous year, when the returns were, respectively, 59,342 tons of lead ore, 41,897 tons of lead, and 360,336 ounces of silver. Wales yielded, in 1854, 18,130 tons of lead ore, producing 13,387 tons of lead, and 67,043 ounces of silver: also showing an increase over the previous year. Ireland yielded 3069 tons of ore, 2210 tons of lead, and 18,096 ounces of silver; Scotland, 1755 tons of ore, 1279 tons of lead, and 5426 ounces of silver; Isle of Man, 2800 tons of ore, 2137 tons of lead, and 52,262 ounces of silver: making a grand total of 94,553 tons of ore, 64,005 tons of lead, and 562,659 ounces of silver. The falling off in the general returns of silver is considerable—1852 having produced 818,325 ounces; and 1853, 700,000 ounces. Of the quantity of lead and silver raised in England, Cornwall yielded, in 1854, 7460 tons of lead ore, 6005 tons of lead, and 179,675 ounces of silver; Devonshire, 4139 tons of ore, 2612 tons of lead, and 119,288 ounces of silver: both counties showing a large increase on the previous year, both in lead and silver. The average produce of silver per ton of lead is about 35 ounces; that of Devon, about 45 ounces. One parcel of 388 tons of Cornish ores (Wheal Trehan), according to Mr. Hunt, gave 81 per cent. of lead, and 40½ ozs. of silver to the ton.

At this time last year, the lead trade was in a very depressed state, owing to various causes, which I then assigned; but a few months afterwards it became more active, and as the smelters were short of stock, the miners reaped the benefit in a rise of 4½. and 6½. per ton on their ores. For some months past there has been a continuous drain upon the stock in hand, so that the smelters and dealers were never so low in stock. In consequence of the great falling off in the imports from Spain, and the steady demand from the United States, it is probable the price will be maintained at present rates so long as the war lasts; and should peace be arranged, a considerable advance may be looked for, as Russia, hitherto one of our best customers, has taken none for a very long period, and will require at once 3000 or 4000 tons.

For copper, the demand for export and home consumption is good, and the stock in hand much lower than usual. The great activity in the Government and private ship-building yards is taking off large quantities of copper and yellow metal; whilst, at the same time, the railway interest is consuming largely in a variety of shapes. Looking at the probable increased demand for ship-building purposes in the United States, as well as for new railways in India, and various parts of Europe, the probability is in favour of higher, rather than lower, rates for copper.

The price of tin has been more remunerative this year to the miner, though the returns have not yet been made up to the end of the year. In the quarter ending March 25, 453 tons, yielding 28,623 lbs. 13s. 2d., were sold; quarter ending June 30, 737 tons, yielding 41,929 lbs. 17s. 11d.; and quarter ending Sept. 29, 1013 tons, yielding 61,637 lbs. 9s. 11d.: thus showing a large and gradual increase. In 1854, Cornwall and Devon yielded 8747 tons of tin ore, making 5186 tons of black tin, and 344,643 lbs. 19s. 3d. in money.

If we take the value of lead ores, including silver, raised in the United Kingdom in 1854 as being 1,177,189½; copper ores, 1,963,306½; tin, 344,643½, we find the gross value of metals raised in one year, by the capital of mining adventurers, and the energy of our miners, to be three millions four hundred and eighty-five thousand one hundred and thirty-eight pounds sterling; and, when made up, the returns for the present year will exceed this.

According to the mineral statistics of the Geological Survey, it would appear that, in addition to the returns of copper, lead, and tin, the total produce of pig-iron in Great Britain in 1854 was 3,069,838 tons. The total produce of coal in the United Kingdom was 47,421,651 tons. The ores of zinc—viz., black jack, 4531 tons; calamine, 280 tons: the value of zinc smelted in England, 16,500½. The produce of salt was 950,000 tons—Cheshire yielding 850,000 tons; Worcestershire, 100,000 tons. Of the ores of sulphur, munda, or iron pyrites, Wicklow returned 34,000 tons; Arklow, 90,000 tons; Cumberland and Westmoreland, 2400 tons. Of arsenic, the Cornish mines sold 476 tons. Of barytes, Isle of Arran, 600 tons, Derronala Mine, 2500; Cork, 80 tons; Alston Moor, 121 tons. Of nickel and cobalt, St. Austell Consols sold 75 tons. Valued at the current prices of the year, the total mineral produce of the United Kingdom in 1854 was 23,575,922½. The total number of persons of all ages employed in mining operations was 303,977—viz., 219,977 in coal mining; 26,106 in iron mining; 21,169 copper; 14,761 tin; 21,749 in lead; and 174 in zinc.

The discovery of the mode of reducing aluminium and silicium to a metallic state has created much interest, as although dear at first, from their peculiar properties, they will afford additional resources to the arts. Silicium is stated to make a most valuable alloy with copper.

In giving the list of dividends paid during the year, the first column shows the amount of capital originally subscribed per share on each mine, and the second the present market value per share. I also give the amount

of dividends paid in 1854, so that the increase or decrease of each mine may be seen at once.

## BRITISH MINES.

Name of Mine.	Amount Paid.	Market Value.	Dividend.	Total.	Dividend.	Market Value.	Dividend.
Devon Gt. Cons.	£1	£410	£256	£27,344	£27,344	£27,344	£27,344
Wheal Bassett	5½	415	137½	3,300	34,500	610	—
Wheal Buller	5	600	130	3,280	53,760	—	20450
North Basset	—	43	3½	21,750	4,500	17250	—
West Basset	—	38	3½	21,000	9,000	12000	—
South Frances	140	360	80	19,984	7,440	12524	—
West Caradon	20	130	13	3,328	6,912	—	3524
South Tamar	1½	6½	136½	3,700	10,125	—	4125
Bedford United	2½	11	29½	1,500	5,400	400	—
Hingston Down	3½	7	276½	8,250	4,050	4200	—
West Seton	—	600	35	7,000	3,000	4000	—
*Wheal Wrey	£1	9½	16½	3,276½	—	3276½	—
West Damsel	10	65	10	2,500	1,536	1024	—
Wheal Arthur	9	8	2½	3,070	3,684	—	14
Phoenix	30	600	—	10,000	10,000	—	—
*Par Consols	1½	18	24½	7,680	—	7680	—
Alfred Consols	12	20	38½	5,888	16,896	—	11008
*Rosewarne	12	149	31	7,936	—	7936	—
*South Crinnis	18	300	60	7,680	—	7680	—
United Mines	40	270	9	3,600	800	2800	—
*Wheal Clifford	—	600	5 7	1,344	—	1344	—
Condurow	20	140	8	2,048	2,304	—	256
Providence	20	50	11½	6,300	1,480	4820	—
Botallack	182	220	40	8,000	11,100	—	3300
Wh. Margaret	79	150	10	1,120	2,016	—	896
*Great Wh. Vor	—	1	1s	6,666	—	6666	—
Wheal Owles	70	230	11½	920	3,400	—	2480
West Providence	5	13	1½	1,280	3,328	—	2048
*Wheal Kitty	5½	40	4	1,024	—	1024	—
Doleach	257	80	3	537	537	—	—
East Pool	5	150	7½	960	640	320	—
Seton	107	180	7	1,387	4,564	—	3177
Carn Brea	15	85	4	4,000	4,000	—	—
*Gt. Sou. Tolgus	3½	6	½	750	—	750	—
*Wh. Charlotte	3½	8	1½	1,536	—	1536	—
*Marke Valley	4½	5	3s	900	—	900	—
Trelawny	9	28	2	1,024	3,640	—	2616
Mary Ann	5	37	2½	1,280	—	1280	—
Treweatha	23½	3½	½	1,014	—	—	—
Spearn Moor	5½	—	3	840	—	—	—
Trehane	2½	4	½	1,536	2,048	—	512
Levant	3½	120	6	900	960	—	—
*Wheal Bal	6½	—	1	240	—	240	—
Tresavean	10	150	12	1,152	480	672	—
Exmouth	4½	9	9	2,565	2,389	—	24
Polberro	18	—	2½	2,416 13 4.	2,525	—	109
*Carnyorth	3	4	9s	921	—	921	—
*Nether Heath	2s	—	1s	320	—	320	—
*Brightside	—	—	1	100	—	100	—
Peak	7½	11	1	512	1,000	—	488
Eyan	30	26	1	1,200	4,200	—	3000
Fowey Consols	40	30	1	494	—	494	—
Wellington	8½	½	½	128	—	128	—

Total £338,069 3s. 4d.

## FOREIGN MINES.

Mines.	Per share.	Amount.
Cobre Copper	£3 0 0	£96,000 0 0
St. John del Rey	4 0 0	41,000 0 0
Mexican and South American	0 15 0	15,000 0 0
Linares	0 10 0	5,000 0 0
Copiapu	1 0 0	10,000 0 0
Burra Burra	5 0 0	12,300 0 0
Waller	0 0 9	2,625 0 0
Lusitania	0 2 6	1,250 0 0
Peninsular	0 2 6	3,125 0 0
Pontgibaud	1 0 0	10,000 0 0
General Mining Association	0 10 0	10,000 0 0

Total £209,320 0 0

## WELSH MINES.

Mines.	Per share.	Amount.
Lisburne	£7 10 0	£3,000 0 0
Cwmystwith	20 0 0	2,560 0 0
Cefn Brynno	3 0 0	600 0 0
Vale of Towy	0 1 0	1,000 0 0
Nanteco and Penrhaw	0 1 0	375 0 0

Total £7,535 0 0

## SCOTCH MINE.

Mines.	Per share.	Amount.
Kirkcubright	£0 3 0	£117 18 0

## ISLE OF MAN.

Mines.	Per share.	Amount.
Laxey	£50 0 0	£1,000 0 0
Fordeale	4 0 0	8,960 0 0

Total £9,960 0 0

## IRISH MINES.

Mines.	Per share.	Amount.
Mining Company	£1 5 0	£25,000 0 0
Newtownards	3 0 0	1,410 0 0
Holyford	0 2 6	250 0 0

Total £29,660 0 0

## GRAND TOTAL.

Mines.	Per share.	Amount.
British	£338,069 3 4	£338,069 3 4
Foreign	209,320 0 0	209,320 0 0
Welsh	7,535 0 0	7,535 0 0
Scotch	117 18 0	117 18 0
Irish	29,660 0 0	29,660 0 0
Isle of Man	9,960 0 0	9,960 0 0

Total £594,661 3 4

For the sake of comparison, I give, as usual, the dividends from profits paid on British mines since 1845:—

Year ending	1845, on 18 mines	£215,450 0 0
" 1846, on 28	158,838 0 0	
" 1847, on 30	155,381 0 0	
" 1848, on 22	129,024 0 0	
" 1849, on 38	185,741 0 0	
" 1850, on 42	213,570 0 0	
" 1851, on 45	216,486 0 0	
" 1852, on 60	261,267 0 0	
" 1853, on 60	330,755 0 0	
" 1854, on 62	317,976 0 0	
" 1855, on 54	338,069 3 4	

From this it will be seen that British mines have paid dividends, from profits to the shareholders, to the extent of 2,832,157½. in 11 years.

In the British Dividend List this year 54 mines have paid 338,069½. 3s. 4d.; last year, 52 mines paid the sum of 317,976½. this year, therefore, shows an increase of 20,193½. 3s. 4d.

The mines in the Dividend List of 1854, and not in that of 1855, were—North Pool, which in 1854 paid 5200½; Balleswidden, 406½; St. Ives Consols, 760½; Great Work, 1755½; Herodsfoot, 384½; Treviskey, 720½; Tremayne, 384½; Great Crinnis, 1500½; Trumpet, 1000½; East Margaret, 256½; Mondip Hills, 187½; Trelyn, 572½; Tywarthaile, 3750½; Lovel, 2580½; Wheal Friendship, 1024½.

Those in the present list, and not in that of the year previous, are—Wheal Wrey, which has paid 3276½; Par Consols, 7680½; Rosewarne, 7936½; Wheal Clifford, 1344½; Great Wheal Vor, 6668½; Wheal Kitty, 1024½; Great South Tolgus, 750½; Wheal Charlotte, 1536½; Fowey Consols, 494½; South Crinnis, 7680½; Wellington, 128½; Marke Valley, 900½; Wheal Bal, 240½; Carnyorth, 921½; Nether Heath, 320½; Brightside, 100½; Spearn Moor, 840½. Of these, Wheal Wrey, Rosewarne, Wheal Kitty, Wheal Charlotte, Carnyorth, Nether Heath, and Brightside, are new mines; and the former two will, doubtless, greatly add to the Dividend List next year.

Devon Great Consols has paid just the same amount of dividends in 1855 as in the year previous. Buller has fallen off 20,480½. I stated, in my Review last year, that the same rate of dividends then paid could not be expected again, but it is hoped the present scale may be kept up. Basset has increased 640½, and would have done better, but for the constant drain upon its resources by the South Mine. West Basset has increased 12,000½; North Basset, 17,250½. These are two of the best

mines in Cornwall, and, from the number of shares, are accessible to all. South Frances has increased 12,524½. Wheal Wrey has increased 3276½, but it is not likely to do so well again, unless an improvement takes place. West Seton has increased 4000½, and bids fair to do very much better in future. South Caradon has decreased 1024½, contrary to expectation; whilst West Caradon has paid less by 3584½. Wheal Wrey has increased 3476½; Providence Mines, 4800½; Alfred Consols fallen off 11,003½, owing to the erection of large and additional machinery.

Among the nine progressive mines of last year, which I stated bid fair to be in the Dividend List of 1855, several have disappointed expectation, though two of them—Great Wheal Charlotte and Rosewarne United—have paid well, and the latter beyond what could then have been hoped or reasonably expected—in fact, this mine has been the "great gun" of the year: scarcely known 12 months ago, the profits divided have been 7936½, and the shares have risen from 25½ to 135½; but it will, as in the case of others also, be more particularly referred to under the head of its particular district. One other of the nine, Sortridge, will probably pay in January next; and Clifjah and Wentworth, and North Robert, during 1856. The others—Great Alfred, West Alfred, West Stray Park, and St. Day United—remain still in a state of uncertainty.

The Share Market has been fluctuating, but generally with an upward tendency; for, whilst there are few of the heavy declines noticed last year, many shares have risen some hundreds per cent. Rosewarne has risen from 35½ to 140½; South Frances, from 250½ per 256th to 380½ per 512th; Wheal Bassett, from 550½ to 830½; North Basset, from 21½ to 43½; West Seton, from 200½ to 650½; Condurow, from 110½ to 140½; United Mines, from 120½ to 250½; Wheal Clifford, from 210½ to 600½; Alfred Consols rose from 18½ to upwards of 20½, then down to 10½, and again up to 22½, leaving off 18½; North Robert, up from 20½ to 40½, now 37½; Sortridge Consols, from 1½ to 7½, and now 5½; West Caradon receded from 180½ to 130½; South Caradons have remained steadily at about 310½; East Basset rose from 25½ to 70½, and down again to 45½; West Frances, from 19½ to 38½, and 40½, now 35½; South Gargoll, from 19½ to 70½; Craddock Moor, from 12½ to 40½; Wheal Wrey, from 4½ to 9½; South Tamar rose from 7½ to 10½, and then dropped to 6½; Hingston Down have fallen from 14½ to 7½; Bedford United, rose from 10½ to 12½, and now 11½; Devon Great Consols, from 380½ to 410½; Wheal Cupid, from 6½ to 13½; East Gunnis Lake, from 17½ to 5½; Ludcott, from 10s. to 50s.; South Garras, from 16½ to 140½; East Garras, from 1s. 6d. to 40s.; Herodsfoot declined from 6½ to 2½; Grambler and St. Aubyn, 20½ to 60½; East Rose, 30½ to 80½; Trevelyan rose from 1½ to 3½, 4½.

DEVON GREAT CONSOLS.—The quantity of ore sold from these mines for the last 12 months amounts to 23,467 tons, realising the sum of 131,294½. 3s., or 5½. 11s. 6d. per ton (exclusive of carriage, which is 8s. 6d. per ton), and have divided 57,344½. profit. The mines are represented as looking well. At Wheal Maria, Gard's engine-shaft has been sunk 95 fathoms. In the 60 fathom level a cross-cut is being driven north, which has been extended upwards of 9 fathoms; the ground, however, continues hard, and progress consequently slow. No lode has yet been met with. At Wheal Fanny, the western engine-shaft has been sunk 135 fms., and a cross-cut is being driven north, in ground easy for progress. The eastern engine-shaft has been sunk to about 90 fms., and in the 65 fm. level east the lode is 5 feet wide, with 1 ton of ore per fathom. At Wheal Anna Maria, the engine-shaft is down about 140 fms. In the 124 fm. level west the lode is 3 feet wide, with 2 tons of ore per fathom; in the same level east the lode has become very large; it is 12 feet wide, with 2 tons of ore per fathom, and altogether very promising. In the 95 fm. level, west of the same shaft, on the north part of the lode, the driving is suspended for the present, and the men put to drive a cross-cut north thereof for intersection of another part of the lode, gone off in that direction some 15 fms. east of present end, which will be reached in about 6 fms. driving. In the 95 fm. level west, on the south part of the lode, the lode is a most magnificent course of ore, worth 15 tons, or 200½. per fm. In a new winze below the 95, 54 fms. west of shaft, the lode is worth 250½. per fm. Vig's winze, below the 80 fm. level west, on the north part of lode, is now down to about the 95 fm. level, and the lode is a good course of ore, worth for the length of sink (9 feet) 6 tons, or 72½. per fm. At Wheal Josiah, in the 144 fm. level, east of Richards's engine-shaft, the lode is worth 3 tons of good ore per fm. In the 175 fm. level cross-cut north the lode is cut through, and proves to be 12 feet wide, composed principally of capel and munda, with fluor and a little copper ore, altogether very promising. In the 144 fm. level cross-cut, north of Hitchens's engine-shaft, the lode is intersected and cut into 12 ft.; it is composed of very fine capel, munda, fluor, prian, and ore, worth 3 tons, or 30½. per fm., and is exceedingly promising. In the 144 fm. level cross-cut south the lode is cut into, and yet no south wall reached; it is composed of very fine capel, munda, prian, quartz, and ore, worth full 40½. per fm. In the 90 fm. level east, west of Tozer's winze, on the south part of the lode, the lode is 4 feet wide, worth full 3 tons, or 24½. per fm



ing well in the old part, and a cross-cut is now driving south in the 25 fm. level, cutting the old Wheal Buller, and also driving a cross-cut north in the 70 fm. level, to cut Williams' lode at Wheal Bassett, and important results may be obtained during the next year. Taking the price of shares at 600s., the present rate of dividend gives 20 per cent. per annum.

WHEAL CLIFFORD, during the year, has sold 1499 tons of copper ores, yielding 11,642l. 7s., and 1344l. 15s. 10d. paid in dividends. Shares have risen from 200l. to 650l. in the year, chiefly owing to the improved prospects; and in February next it is expected the dividend will be 8l. to 10l. per share. The mine is in Gwennap, bounded on the west by the United Mines, north by Great Consols and Wheal Fortune, and east by Nangiles. In the 150, 160, and 170 fm. levels west there is a lode averaging 80l. to 90l. per fathom, and the 160 north 120l. per fathom. The lode in the 180 fm. level, at the United Mines, is said to be near to the boundary of Clifford, and a good lode in the end. The 194 fm. level is within 15 or 20 fms., and exceedingly rich.

UNITED MINES have returned 9583 tons, realising 52,235l. 1s. 6d. this year, and 717 tons more for sale, and have paid dividends of 3600l. Larger dividends would have been paid, but for the purchase of a large interest in the Great Consols. The lode in the 194 fm. level is very rich, but was for some time suspended. It is now resumed, and is within 15 or 20 fms. of Clifford. The 208 is yielding 15 or 16 tons per fathom, and is about 30 fms. from Clifford. The 220 fm. level is 70 or 80 fms. off.

SOUTH CARN BREA.—Shares in this mine lately took a start from 5l. to 10l. each. The flat-rod shaft is sunk to the 40 fm. level, and there is a good branch of ore in the bottom, 5 feet wide.

EAST BASSET, from its excellent position, will command more attention some day, but the ground during the past year has been very hard and expensive, and the progress made consequently slow. The engine-shaft has been sunk below the 60 fm. level, and a cross-cut is driving south to cut the south lode.

WEST FRANCES is bounded on the east by South Francis and West Basset, with the principal lodes in both these mines running through the sett, and there is scarcely a doubt of its yet making a rich mine, although a liberal course of working has been pursued, and a considerable amount of capital expended, so far, with very small returns. Public confidence, however, in its eventual success continues undiminished. As a very favourable change has lately taken place, both in the size and character of the lodes, and a course of ore might suddenly present itself, without in the least surprising the men driving the ground.

WHEAL GRENVILLE, adjoining South Francis, on the run of the lode of this mine and of West Basset, has had altogether 18,000l. expended upon it by the late company and the present. A cross-cut is in course of driving in the 85 fm. level and in the 70, to intersect two lodes in the old part of the mine; whilst at Newton Moor the South Francis main lode has been cut, worth 25l. to 30l. per fathom for tin. The Newton shaft is down 30 fms., and it will take three months to get under the tin ground, where a course of copper is expected, and, if met with, the mine will take an important position.

WEST GRENVILLE is the old Tolcarne Mine, which has just been put to work under this title. The prospects are good, and the mine will be tried for a small outlay.

SOUTH CONDURROW is a very fine piece of mining ground to the north of Grenville, and on the run of some of the Basset lodes, and is about to be vigorously prosecuted, with fine prospects of success. A shaft has been sunk to the deep adit of 40 fathoms, where a lode has been cut, and also another 16 fms. to the south.

NORTH FRANCES is on the southern side of the summit of Carn Brea, between Carn Brea Mines and West Basset. The sett is a large one, and traversed by several lodes of copper and tin. The workings have been going on about three years, and the outlay has been about 11,000l., in 2500 shares. A good discovery has lately been made in the 42 fm. level from surface, on Vernon's lode, which is nearly in the middle of the sett. The object of the shareholders is to sink about 30 fathoms deeper on this lode, and then cross-cut north and south to the side lodes. The north part of the mine is in granite, the south in killas. It is worked by a 30-in. cylinder engine.

EAST BULLER adjoins Wheal Buller, north and east, and Basset Mine on the west. The present workings are driving cross-cuts south in the eastern part of the sett, in the 20 and 40 fm. levels, to intersect the Buller lodes, and which makes the mine an excellent speculation. Copper Hill and Buller drain East Buller to a depth of 60 or 70 fathoms.

NORTH BULLER adjoins North Basset westward, and has all the north lodes of that rich mine, and it is generally believed that perseverance in this sett will obtain a prize.

WHEAL UNY, in Redruth, is bounded on the west by South Carn Brea and the Carn Brea Mines, is being worked in a spirited manner, and returning good quantities of tin and copper, but at a great loss, and the long-continued and heavy expenses are wearing out the shareholders. It is to be hoped that eventually a good and profitable mine will reward them for their present trials.

PEDAN-DREA UNITED MINES are situate in Redruth, the name signifying "top of the town," and are upon the run of the Carn Brea lodes eastward, also adjoining Clijah and Wentworth and Trefusis. About 15,000l. has been paid up on 10,000 shares and expended, and the mines yielding large returns of tin, and some good quality copper ore. The machinery consists of a 70-inch drawing engine, with three boilers and pit-work; a 32-inch steam stamping-engine, with 48 heads, and capable of taking 48 more, which will go to work in January next; and a 24-inch steam whim-engine, now drawing from the 80 fm. level, and above. The returns during 1855 have amounted to 4500l., including tin, copper, and arsenic; and a similar amount in ore is stated to be broken underground and at surface, awaiting the completion of the steam stamps, after which the monthly returns will more than meet the current expenditure. In the meanwhile, a call of 6s. per share will be made to pay for the stamps, new boiler, calciner, and other appendages; and this, it is believed, will bring the mine into a dividend-paying condition. There are numerous lodes in the sett; the great lode, and that called Martin's lode, in the 60 and 80 fm. levels, have been for several months worth from 60l. to 100l. each per fm., and the greater part wrought at 4s. tribute.

CLIJAH and WENTWORTH has sold 874 tons of copper ore this year, realising 5074l. 7s. There are seven known lodes running through the sett, and a bold course of working is being pursued to develop them. Besides the copper lodes now being worked, the old Clijah tin lode has been lately cleared up in the old workings, in the 20 fm. level, on the back of which level a bunch of tin worth 200l. per fathom has been discovered. No great importance, however, is attached to this discovery for itself alone, as it is but a piece of ground left by the old miners, but it is exceedingly important in regard to what may be expected in opening ground on this lode. Altogether, this mine offers great hopes of early profitable results.

BELL and LANARTH, in Gwennap, adjoins the old Penstruthal Mine, which in former years left very large profits, and has a continuation of its lodes. Operations have been, for some time past, carried on upon a limited scale, and confined to driving a deep adit north and south of the deep valley running between the Bell and the Lanarth setts; this adit will intersect the lodes and drain them at a depth of 70 fms. In about three or four months this object will be accomplished, and great expectations of success are entertained.

TRELEIGH CONSOLS (near Redruth).—The old mine was sunk 150 fms. from surface, and large quantities of ores raised between the adit and 90 fm. levels, and for a great many fathoms in length. The most productive levels were the 80 and 90, contiguous to, and in the vicinity of, the great cross-course which runs through Wheals Harmony and Montague, Pen-an-drea, and Sparrow, to the east and west of which cross-course most mines in the district have proved productive: 80 fathoms to the south of the Treleigh lode traverses a fine crystalline porphyry; in some places quartz predominating, when it is accompanied by small crystals of red felspar, the whole being exceedingly hard. But where the felspar prevailed, the elvan was whitish and decomposed, and the slate on both sides of it was traversed by numerous small veins of ferruginous quartz; and it was here where the lode produced the greatest quantity of ore. This elvan course ran parallel with the lode, dipping north 5 feet in a fathom, and intersected it at 90 fms. deep, the lode at the junction being rich in yellow copper ores. It was the opinion, however, of Capt. Prince that no great riches would be met with under this elvan, and although the shaft was sunk to 125 fms. under adit, and levels driven in a great many fathoms east and west, in the 100, 110, and 125 fm. levels, the lode yielded scarcely any ore; and in the beginning of the present year the pitwork was brought to surface, and the old mine abandoned. Since this, attention has been turned to Good Fortune and Stranger lodes, both of which, it is considered, may turn out profitable. Carr's engine-shaft has been sunk 40 fms. from surface, and about 40 fms. east of the great cross-

course, and a cross-cut is now driving towards the lodes, and within 60l. of Good Fortune.

NORTH DOWNS adjoins Treleigh, and has been extensively and profitably worked on the course of the same lode, until disturbed by the same elvan course, when the deeper levels were abandoned. The operations are now confined to opening a part of the lode at 26 fms. from surface or adit level; this is in whole ground for a distance of 200 fms.—lode 2 feet wide, producing good stones of copper ore. The principal object, however, is to try the mine west of the great cross-course, and this will shortly be drained by a 60-inch cylinder engine, and the prospects are very encouraging.

WHEAL TREFUSIS.—It is found that the lodes east of the cross-course, which pass through boundary shaft, are larger than westward. A 15 fm. level has been driven from this shaft upon Field's lode (known as Julia lode, in Clijah) for a distance of 40 fms.; here a new shaft has been put down, and the engine removed to this spot. A few fathoms westward, the Clijah and Wentworth lode strikes in and forms a junction with Field's lode, and they run together eastward. In the present end the lode is 3 feet wide, composed of gossan, iron, and stones of copper ore, very soft for driving. To the eastward are several cross-courses, and the killas, at no great distance, forms a junction with the granite.

BULLER and BASSET MINES are to the south-east of South Francis and Wheal Bassett, and, therefore, in a rich district, and during the year a 36-inch cylinder steam-engine has been erected, the shaft is down 23 fms., and in about a month it is expected the lode will be intersected in the shaft. The flat-rod shaft is down 33 fms., sinking on the course of the lode. The balance in hand last bi-monthly meeting was about 1800l.

BASSET GRAZE (adjoining Wheal Clifford).—In the cross-cut north, in the 30 fm. level, a lode has been intersected; it is about 3 feet wide, worth, in the present end west about 1½ ton of yellow ore per fathom. The south lode is expected to be cut daily. The mine looks exceedingly well to improve.

CARVANNALL has progressed very favourably during the year, and, from its excellent situation, is likely to become an important property; it is near Gwennap, and on the Cornford and Tresavean north lodes. The depth is 118 fms. below the adit of 35 fms., and the principal object now is driving the levels west to intersect Penstruthal cross-course, around which the latter mine gave considerable profits.

WEST DAMSEL (near Grambler) has sold 1018 tons of ores this year, realising 6256l. 5s., and has divided 2560l.: 223 tons more of copper ore would be sold on the 27th inst., but late for insertion here.

CAMBORNE CONSOLS.—The prospects here are considered favourable. The mine is a good position, and 50 fms. deep.

WHEAL HARRIETT, which is well situate in Camborne, bounded on the north by Stray Park and Dolcoath, on the east by Cook's Kitchen, and on the south by Condurrow, has disappointed expectation so far, but hopes are still entertained of good results. Capt. John Lyle has recently taken the management, the engine is set to work, and the water forced to the 50 fm. level. At 6 fms. below the present depth of the shaft (84 fms.) a junction of two lodes takes place; and here, from the gradual and favourable change in the ground, a good mine may be expected.

ST. DAY UNITED MINES.—This fine run of mines have sold this year 3175 tons of copper, realising 24,008l. 17s., besides large quantities of tin. I regret, owing to the meeting being held so late, I have not been able to obtain the latest particulars from Cornwall for this publication.

TRESAVEAN has this year returned 2639 tons, yielding 10,653l. 13s. 8d., and 530 tons more for sale, and has again appeared in the Dividend List, paying 1152l. This mine, once the richest in the kingdom, has paid dividends to the shareholders exceeding half a million sterling, for many years paying from 40,000l. to 50,000l. a year.

TINCROFT has sold this year 4180 tons of copper ores (besides tin), realising 17,322l. 5s. 6d.; and during the last two months the returns have nearly doubled. In 1852, the mine paid 3150l. in dividends, and the same amount in 1853; and from the greatly improved prospects, it is probable good profits may be divided in 1856.

SOUTH TOLGUS has sold 1157 tons of copper ore this year, realising 10,842l. 9s. 6d. The sales have been leaving a trifling monthly profit; but within the past few days a very great improvement has taken place in the mine, the lode in the shaft yielding 7 tons of ore per fm., leading to the supposition that the mine will shortly pay dividends again. Shares have risen from 80l. to 110l. When the mine paid dividends before the shares were 250l. each.

EAST TOLGUS, Redruth, is situate to the east of South Tolgus and Great South Tolgus. A steam-engine, of 36-in. cylinder, has been lately erected, and the works in full operation. The engine is placed on the engine-shaft of the Old Redruth Consols Mine, which is now being sunk below the 22 fm. level; and when the old Redruth Consols lode will be explored. A shaft has also been enlarged for the trial of the old North Buller lode, and this will be drained by flat-roads. Some very good ore ground has been laid open on this lode, in the adit level, under which a 10 fm. level will soon be carried.

GRAMBLER and ST. AUBYN, near Redruth, and in the Basset district, has been at work many years, and is now beginning to attract considerable attention. The sett is very extensive, and bounded on the north by Wheal Cupid, on the west by Pedan-drea, and on the south by Trefusis. The Grambler part of the mine, on which stands the steam-engine, and a very powerful one, is now suspended, and the present workings are on the St. Aubyn part of the sett, on parallel lodes, of a numerous and promising character. Three of these are at present opened on at a depth of 12 fms. and 24 fms. below the adit, which is a very deep one; and the sump-shaft, which communicates with the engine by means of flat-roads, is now sunk to the 36 fm. level; this level will speedily be extended east and west, and cross-cuts driven north and south to cut other lodes. Of the three lodes at present worked on—viz., Richards's, Simmons's, and Williams's, the two former will unite in depth, and a great discovery may daily be expected on their coming together in the shaft which is sunk between them. Williams' lode is a large and promising one, and worth in the 12 fathom level 20l. to 25l. per fm. It was lately met with in the 24 cross-cut, and on this level being extended, judging from the appearance of the 12, it is likely to become rich and productive. It is believed that from the number of lodes, the character of the gossan, &c., and the rich quality of the ores, the mine will be in the Dividend List in course of the ensuing year. The ores sold this year have been 103 tons, yielding 1101l. 9s. 6d. Since this was written, and with the last day or two, the mine has generally improved.

WHEAL CUPID, in Redruth, has been at work about five years, and 12,000l. expended. Little's shaft has been sunk through a mass of gossan, is 83 fms. deep, and now in a course of floor-spar, interspersed with fine stones of copper, and has the appearance of being near a course of ore. In the western part of the sett the geological formation is something similar to Buller, and an adit having been driven by former adventurers on a fine copper lode, with rich gossan, close to the junction of killas and granite, one of the largest shareholders had a strong opinion that a course of ore would be met with, and induced the adventurers to erect a steam-engine. I stated, in my Review last year, that great expectations were formed at this part of the sett, from the general indications and richness of the district, and about a month ago a fine lode was cut, producing from 2 to 3 tons of good copper ore per fm. in the 25 fm. level, and it is now productive in the shaft. When another level is opened, no doubt large quantities of ore will be raised, and before the end of the year the mine is likely to become one of great importance.

COPPER HILL, in Redruth, adjoins, and was once a part of, Wheal Buller, and has returned about 1500l. worth of ore. The shaft is down about 90 fms. from surface. There is an excellent plant of machinery to carry the works to a great depth, but more calls will be required to put the mine in good working order. The locality of the mine is good, and some day it may become valuable.

COOK'S KITCHEN, in Illogan, has been working nearly a century, and formerly yielded enormous returns of copper ore. The great lode, from 30 to 40 ft. wide, has from the 120 fm. level downwards altered its character, and from copper has become a tin lode. The shaft has been lately sunk to a 210 fm. level, and the level is being driven east and west, and is cutting open a very large amount of rich tin ground between the 190 and 210 fm. levels. In a few months' time this mine may be reasonably expected to make profits, if not to resume dividends.

WEST STRAY PARK, in Camborne, adjoins old Camborne Vein and Stray Park. Four large lodes are being worked upon, but the rock is so excessively hard that the progress is very slow. Indications are now presenting themselves in the engine-shaft, which is 52 fms. deep, of a change for the better. The lodes contain both tin and copper ore, and would yield sufficient returns to pay the current cost, if the price per fathom for driving and sinking did not exceed the average of our Cornish mines.

WEST SETON, which has proved one of the greatest prizes of the year,

was for many years a heavy drag upon the shareholders, the returns being regularly made every two months. A few months since the shares were 200l. each, and are now 650l. The mine has sold 3064 tons of copper ore this year, realising 21,205l. 14s. 6d., and has divided 7000l. Next year the dividends must still further increase, and the present rate of interest paid is no criterion to judge of the real value of the mine. The principal workings are on the south lode, which is yielding from the ends more than any other lode in Cornwall. The north lode is also looking well.

SETON, formerly a rich mine, and paying large dividends, has only divided 1387l. this year. The returns of copper being 2339 tons, yielding 12,066l. 10s. 6d.

NORTH WHEAL CROFTY has sold this year 1551 tons of copper, realising 10,245l., and now working to a profit. The mine is the north part of the Old East Wheal Crofty, which divided about 90,000l. from Reeve's lode. In North Crofty several lodes stand in whole ground for the length of the sett, amongst which is North Pool lode. In the 130 a cross-cut is being driven to intersect these lodes.

NORTH POOL has not had any dividends this year. In 1854 the mine divided 5200l. profit; but in remarking upon it this time last year it was said to be failing: now said to be looking better.

EAST POOL has returned 2287 tons of copper ore, yielding 13,590l. 1s., and has divided 960l. profit, showing an improvement on the previous year.

WHEAL AGAR, in Illogan, is bounded on the north by North Pool, south by East Pool, east by South Tolgus, and west by East Crofty, or in the centre of rich and productive mines. By a former company ores to the value of 28,000l. were sold. The present company commenced operations this year, and have sold since August 450l. worth. The depth of the old workings is 70 fms., and a new engine-shaft is now down about 40 fms. In the 60 east some good ore ground has been lately discovered.

GREAT SOUTH TOLGUS, in Redruth, paid its first dividend this year of 750l.

At BOLENOWE, nothing has been done in the way of discovery this year. The mine is to the south of Grenville, and adjoins the southern part of South Francis.

CARN BREA has sold 6097 tons of copper ore this year, realising the sum of 33,233l. 10s., and 248 tons of tin, realising 15,223l. 17s. 6d., and has divided 4000l. profit. In 1853 this mine divided 10,000l., in 1854, 4000l., making a total of profits divided amongst the shareholders of 231,510l. upon a paid-up capital of 15,000l.

CONDURROW has returned 1696 tons of copper, yielding 12,022l. 17s. 6d., and 93½ tons of tin, realising 6163l. 8s., and has divided 2048l., or 8l. per share. The prospects of the mine are such as to warrant the expectation of better dividends in future.

GREAT WHEAL VOR UNITED MINES, near Helston, Cornwall, are being re-worked with a capital of 133,333l., in 26,666 shares, of 5l. each, with every prospect of profit, by Messrs. Henry and Edward Crease, the present managers, joined by a powerful body of directors, under whose auspices the works are now being extensively and energetically carried out. Since re-working the company have raised 38,381l. worth of ore, and paid in the last half-year a dividend of 5 per cent. The tin raised and sold in November month realised 3016l. 19s. 10d. The main works are drained to the 144 fm. level. The lowest point of the mine is about 230 fms. deep perpendicularly, or 284 fms. on the underlie of the lode. The official records of the mine state that on the former workings upwards of 2,000,000l. sterling was returned from the mines, and this chiefly from a small portion of one main lode. The ore books prove that it actually produced 175 tons of black tin per month. There are numerous side lodes, few of which have been touched (with the exception of Metal side lode, which, though only 70 fms. deep in the month of Nov. 1855, produced a nett profit of 750l.), and these side lodes are likely to prove very profitable, being drained by the machinery now on the deep works. They can be very cheaply worked, by driving cross-cuts at the rate of 8 fms. per month along the cross lodes, which intersect the whole property, and which formed the copper lodes that produced extraordinary profits in Godolphin at the northern extremity of the property. The stratum is a long and deep basin of metalliferous killas, or clay-slate, superimposed upon granite in depth. The machinery is the most powerful in Cornwall, working with extraordinary economy, and consists of Crease's 100-in. cylinder engine, which in Nov. 1855 did an average duty of over 90,000,000, and is capable of doing 110,000,000; an 85-in. cylinder engine; a 36-in. cylinder stamping-engine, driving 120 heads of stamps, capable of crushing 5000 tons of tinstuff per month; two 26-in.; a 32-in. winding and capstan engine; a saw-mill, and machinery for turning, boring, and screwing, respectively, turned by a water-wheel; and several water-stamps and other works. All the machinery for the main works, rods, pumps, and plant generally, with the exception of about 208 fms. of pumps, and the necessary labour, woodwork in the shafts and levels, and plant generally, is on the mine, and paid for. The main outlay for plant for the complete drainage is, therefore, incurred. The dressing-floors are the most complete in the county, and able to dress 5000 tons of tinstuff monthly. The system of railroads in execution, for the economical carriage of ores from every shaft in the property (which is two miles wide by one and a half long) to one general floor, and thence also by rail direct to the steam-stamps, has not its equal in Cornwall. Every day adds to the discoveries of tin in opening the main and other lodes of these mines, but the chief points of interest at this moment are on the main lode, the 60, 70 east (where two good lodes will form a junction), the 96 west, the 90 (where there are rich loads of ore), in the 106, and from there, as far as they can see to the 115 (where the company consider they have a great discovery of tin, likely to tell upon the monthly returns), in the 124, 133, and 144, where a great many tribute pitches can, by the application of a little tut-work, be rendered very profitable. This is above water at present. Below, the points of chief interest are the 164, 174, 194, and from there in every other level to the bottom. At bottom of main works is the great "more" of tin, from 100 to 150 fms. long, 8 to 15 ft. wide, and at the present price of tin (Dec. 1855) is worth fully on an average 90l. per fm., capable, it is asserted, of producing alone, when properly laid open, over 100 tons of tin per month. Trueman's lode, a side lode, about 40 fms. north of the main lode, and seen in one place only to the 30, is just opening rich, and is very valuable and productive. Wheal Metal lode, a side lode to the south of the main lode, is a mine of itself, yielding 24 tons of black tin, of rich quality, per month, and a good and increasing profit, having over 100 fms. of good ore ground laid open, and the sump and every end vigorously worked with a full force of men. The lodes in the bottom of the shaft and bottom levels are respectively worth 70l. per fm. At 20 fms. deeper, two other promising lodes will form a junction with the main Metal side lode, and it is expected will make it as rich as the main Wheal Vor lode. At Carleen, the main old Wheal Vor lode is in whole for over 600 fms., untouched and unexplored, notwithstanding that in the western extremity of this part of the mine the junction of the killas with the granite of Tregoning Heights occurs. This is a most important point in the property. The old workings at Carleen, in a lode north of this, left off with a good profit, and will pay well now to re-work it. There are 18 or 20 side lodes beyond those already described within the limits of the various setts, in exactly the same geological conditions as the old Wheal Vor lode, every one of which is likely to prove valuable. There is an immense accumulation of old leavings, filling a valley for above half a mile long, the re-working of which in the last 18 months yielded a profit of 6060l., and of which only a small portion is exhausted. At the general meeting of shareholders, on Dec. 19, 1855, it was expected that at the half-yearly meeting in June, 1856, a fair dividend for the year would be paid.

ROSEWARNE UNITED.—We directed special attention to this mine last year, when it was comparatively unknown, and the shares 70l. per 256th. We stated it would soon appear in the Dividend List. We could scarcely, however, have thought it would turn out so great a prize, and so quickly. During the year the ores sold, 2627 tons, have realised 23,169l. 14s. 6d., and 7936l. paid in dividends to the shareholders. The shares have risen from 35l. to 135l., and will probably be very much higher ere long. The sett is a very large one, extending upwards of a mile on the course of the main lode, and in breadth, also, is very extensive, comprising a number of east and west lodes, all of great promise, but which have not yet been opened upon. One great feature, which has lately enhanced the market value of the shares, is the discovery of two new lodes, of great promise, in Wheal Hender, an adjoining mine. These lodes run through Rosewarne, and will fall into the main lode, it is believed, east of the old engine and Jennings' shaft. The main lode of Rosewarne being a caunter, great deposits of ore may be expected at these junctions, or points of intersection. There are also other points of expectation, the realisation of any one of which may add greatly to the value of the mine. The old engine-shaft was sunk on a most unproductive spot, and until lately the levels had to be extended east and west for many fathoms through barren ground. Now, the 58 east, the deepest level, is worth 12l. per fathom, and the 58 west is highly promising. The 12 west, which is furthest in advance, is closely



approaching the workings of this mine for tin at an old shaft, called Wheel Bush, and when an elvan course crosses the lode there, good deposits of copper are anticipated. The 46 west, as it approaches the ore gone down in the 34, is gradually improving, and if valuable ore ground be there discovered, a large addition will be made to the reserves, which are already sufficient to pay the present dividends for the next two years. Taking the value of shares at 140s. per 512th, the present rate of dividends gives 17s. per cent. per annum, with every probability of an increase.

WHEEL HENDER adjoins Rosewarne on the east, and is separated from it by a small water-course. It is under the management of Capt. Richards, of Basset, and the shareholders are principally those of Rosewarne. The mine is quite in its infancy, but the highest expectations are, with justice, formed of its ultimate success, its prospects being greater than were those of Rosewarne two years ago. Seven lodes have been discovered, three of which are opened upon, and each beginning to make returns from the adit levels. The ores raised are rich, and yield from 12s. to 14s. per ton, and when an engine is erected good returns may be expected. Looking at the rapid progress of Rosewarne, it is not too much to expect that Hender may become a dividend mine in 1857.

GERNICK MINE, in Gwincar, is bounded on the west by Wheel Hender, and has the lodes of Rosewarne running through it. It has only lately been put to work. A new 40-inch cylinder pumping-engine has been erected, and the old shaft cleared out to the bottom, 40 fms. from surface. A level was driven west of this shaft about 30 fathoms by the old workers, apparently through a good course of ore; the ground in the back of that level has just been let on tribute, the lode yielding 3 tons of rich ore per fathom. The shaft is now being sunk to a 50 fathom level, with excellent prospects.

At WEST ROSEWARNE, spirited operations are about to be commenced. The mine is divided into 1024 shares, and 2000s. is subscribed for working to start with; it adjoins Rosewarne, and on the same rich lode, and has the Old Reliance, which made very large returns and profits, on the west. West Rosewarne was at work before, under the name of Gwincar Consols, when an adit, 23 fms. deep, was driven through the sett, and a shaft sunk 29 fms. In the 10 a fair quantity of ore was found, and about 25 fms. east of the engine-shaft the ore was 4 feet wide, of superior quality, producing an average of 18 to 20 per cent. About 2 fms. west of Stephen's shaft there was an extraordinary deposit of ore, which extended diagonally 9 fms. wide, about 5 fms. above and 5 fms. below adit, the average thickness about 6 ft.; this ore varied from 3 to 7 per cent. for copper; at that time the standard was only 80s. to 100s. (now 140s.), and the mine was stopped, through it, it is said, the bankruptcy of a large shareholder, the whole outlay, after deducting the returns, and including the machinery, &c., being only 3500s. The present company intend to erect a 50 or 60-inch steam-engine without delay, and work on the south lode, which is a continuation of Rosewarne rich lode. The mine has been favourably reported on by Capt. Chas. Thomas, and the chief agents of Wheel Basset, North Basset, West Basset, and South Frances.

SOUTH ROSEWARNE.—This sett, comprising two pieces of ground, known as Gear and Parbola, is to the south of Rosewarne. Several lodes and one cross-course traverse the sett. In a strip of ground jutting into Wheel Unity, a pit has been sunk, and a fine lode cut, close to the boundary, at a depth of 6 fms. from surface, said by some to be Wheel Unity north lode. The characteristics, however, differ, and so does the underlie. The lode is about 2 feet wide—a fine gossan, spar, peach, &c., hardly deep enough for ore.

NORTH ROSEWARNE, formerly Wheel Chance, is now in active operation. PENDARVES and ST. AUBYN has passed into fresh hands, and it is proposed to divide it into three, the sett being much too large to be worked as one. A good engine in each sett would give each a fair trial. Halgarack lode, in the south part, has in the adit level, for 70 or 80 fms., produced throughout small branches of good ore. This is supposed to be Wheel Hender lode.

ROSEWARNE AND HERLAND UNITED, adjoining Herland to the east, was worked upwards of 70 years ago, and supposed to be sunk 10 fms. below the adit, where a good course of ore is said to have been found. Four lodes were also intersected in the adit. The mine is to be re-worked forthwith, under the above title. The engine has been purchased, and it is calculated will be at work in March next. The lode on which it will be erected is from 3 to 5 ft. wide, composed of capel, gossan, and ore.

NORTH WHEEL UNITY.—During the year, the engine-shaft has been sunk from the 34 to the 66 fm. level, and the lode intersected in the 46 and 56 fm. levels; in the 66 the lode is not yet cut. The 46 has been driven east and west 73 fms., and produced small bunches of black ore, mixed with chlorite and floukan, from which the ore could not be extracted, and was, consequently, of low produce. The 56 has been driven 53 fms., and the lode very much improved as compared with the 46, showing indications of further improvement in depth. Ores from these levels have been sold to the value of 408s. 17s. 3d., and 30 tons more of copper ore sampled. In the 56, for the last 2 fms. driving, the lode has changed from copper to tin, worth 10s. to 50s. per fm. The backs of these levels remain almost entire. In the eastern part of the mine, this lode has been worked to a depth of 15 fms. below adit, and produced about 120s. worth of tin, with occasional stones of black and grey copper ores. This part is now suspended, in consequence of too much water, being 70 fms. apart from any other level extended that way from the engine. The 34 fm. level has been driven through an elvan course, and the cross-cut is now driving to intersect the lode. This piece of ground is unwrought from surface for 70 fathoms in length, and has the champion cross-course of the district at one end, and an elvan course at the other, and offers good chances of success. A cross-cut has been driven 50 fms. in the 17 fm. level, to intersect the north lode, and the level driven upwards of 50 fms.; and the lode in places has a good appearance.

At TRELOWETH, the engine-shaft has been sunk to the 90 fm. level, and the lode in sinking has gradually improved, the level east and west of the shaft at this depth being more productive and promising than the upper levels. The shaft is now in course of sinking again below the 90 fm. level, and the lode yields 4 tons of copper ore per fm. The 90 fm. level east is driving by six men, and is worth 2 tons per fm. The 90 west yields 1 ton per fm. Four men are on tribute, at 4s. in 11; eight men at 6s. 8d.; two men at 9s.; and four men at 12s. in 11. The samplings have been about 70 to 80 tons every two months, and in future it is intended to sample monthly, as the produce from the mine is increasing. The monthly costs average about 350s. A steam crusher and drawing-engine has been erected during the past year, and the plant of the mine is in excellent condition and good working trim.

WHEEL UNITY.—A fine lode has been cut in the north part of the sett, and driven on about 40 fms., producing green, black, and grey copper ore of a high percentage. The lode in the present end is 4 feet wide, composed of gossan and fine stones of grey and black ore; driving 5 or 6 fms. a week, at 17s. 6d. per fm. A horse-whim is being erected, and the ground being easy, it is expected that the lode will be seen 10 fms. deeper in about six weeks. A fine lode has been cut in South Rosewarne, in a piece of ground stretching into Wheel Unity, thought by some to be the above lode. The underlie and character are, however, different; and if not the same lode, Wheel Unity will have this lode for about 250 fms. It has been cut near the boundary, and where seen, has a very fine appearance. A cross-cut is about to be put out in Wheel Unity, to cut two south lodes. Also, in cross-cutting to take the engine lode, several veins of yellow copper ore have been met with, supposed to be part of the main lode, disordered by the caunter.

BOILING WELL, near Hayle, has progressed satisfactorily during the year, having sold lead and copper ores to the value of 7260s. in eleven samplings. The shaft is down to the 60, and a cross-cut driving to intersect the lode; and if met with a course, the mine will soon be in the Dividend List. A new feature in the mine, and one looked forward to with much interest, is the sinking a new shaft perfectly dry on the great south lode, 180 fms. from the other works, and within 10 fms. of the cross-course. At 6 fms. from surface, this lode is producing rich stones of copper and lead.

WHEEL KITTY (Uny, Lolant) has entered the Dividend List this year, and has paid 1024s. The mine is extensive, and situate in one of the best tin districts of Cornwall. The engine-shaft is down 120 fms., and preparations are being made for another level. The three bottom levels—the 100, 110, and 120—are very productive, and the 100 has been driven through good tin ground for 55 fms. in length. The dividends having commenced only six months ago, the amount paid this year forms no criterion of the interest to be got on shares. Much more will be divided next year.

WHEEL KITTY (St. Agnes) is making large returns of tin—from 10 to 13 tons monthly, with ends worth 10s., 15s., and 30s. per fm.; and there is reason to believe that the mine will soon make good profits.

ALFRED CONSOLS, near Bideford, has been started during the year, and is chiefly taken up by Rosewarne shareholders. An adit is being driven on a caunter lode, to cut a number of east and west lodes, and this mine is considered a good speculation.

ALFRED CONSOLS has sold 3627 tons of ore, realising this year the sum of 29,036s. 5s., and has divided 5883s. The profits would have been much greater, but new and expensive machinery has been erected and paid for out of the returns. During the year a valuable discovery has been made beyond the cross-course, and the present rate of profits can scarcely be regarded as a fair criterion of the value of the mine.

WEST ALFRED CONSOLS has sold this year 840 tons of copper, realising 2996s. 10s. 6d. This mine has improved of late.

GREAT ALFRED has sold 1965 tons, realising 9728s. 9s. The winze sinking east of Copper-house shaft, below the 148 fm. level, will yield 4 tons of good ore per fm. Other parts of the mine improving.

WHEEL CHARLOTTE is one of the new dividend mines of the year, and has sold copper and tin ores to the value of 11,536s. 14s. 9d., and divided 1536s. profit. The engine-shaft has been sunk 11 fms. to the 40; south shaft 23 fms. to the 42; east whim-shaft, 28 fms. There are two lodes, the north averaging 1 ft. 3 in. wide; the south lode, 2 ft. 6 in. On the north lode, in the 30 fm. level, 30 fms. of ore ground have been opened during the year; and altogether, on the two lodes, 317 fms. The eastern whim-shaft will shortly be communicated with the different levels east on the south lode, which will facilitate working the eastern part of the mine, which at present is the most promising. Both sump-shafts are being sunk to the 40. These levels will be driven east and west through the ore ground, and open tribute ground in the backs.

PERRAN ST. GEORGE.—Upwards of 10,000s. has been laid out here in machinery during the last two years; and although, in consequence, the dividends have been suspended, this large expenditure has been met from the produce of the mines, without any calls upon the shareholders. At the present time the mines are working to a profit, and the ores have improved in value since the lode has entered the granite. Next year, the mines will be in the Dividend List again.

WHEEL TREVELYAN has sold 52 tons of tin this year, realising 3115s. The company has recently gone to a very heavy expense in erecting a new engine, for the purpose of exploring the eastern part of the sett, where a new shaft has been sunk 18 fms. below the adit, and a fine copper lode intersected, presenting the most favourable indications. In about three months this lode will be opened on 15 fms. deeper, when profitable results may be anticipated. The mine is meeting more than half of its cost by the tin, and the machinery now consists of three steam-engines.

CUBERT UNITED.—The engine-shaft is now down 75s. fms., with a lode 2 feet wide, yielding 7 cwt. per fathom, and in about a fortnight a level will be commenced at the 76 fm. level. In the 66 fm. level the lode is looking better. The returns for the last quarter were 48 tons of rich silver-lead. The costs have been heavy, owing to alterations in pitwork, &c., which will not occur again, and whilst the cost, therefore, may be reduced, the mine offers prospects of greater returns.

MILL POOL has been making good returns of tin, and is meeting the cost within about 50s. a month. The prospects are good for improvement.

TREHARVILL has sold copper ores to the value of 1810s. 8s. 4d. this year, and the flat-rod shaft has been sunk 11 fms. 1 ft. 6 in.; the new shaft, on south lode, 16 fms. 3 ft.; new engine-shaft, 13 fms. 1 ft. 6 in. In 1856, it is expected, the cost of the mine will be met by the returns, and perhaps a small profit left to the adventurers.

WHEEL TREMAYNE has made good returns, but has been working to a loss. Copper sold, 355s. 10s. 3d.; tin, 7650s. 9s. 10d.; and about 10 tons more of the latter for sale. During the year the boundary shaft has been sunk 9 fms. 3 ft.; flat-rod shaft, 15 fms. 2 ft.; Allen's whim-shaft, 7 fms.; Hosking's ditto, 24 fms. 3 ft. There are four steam-engines on the mine—viz., a 50-inch, 60-inch, 20-inch, and 18-inch. In the coming year the returns, both of copper and tin, will be increased.

KENNECOY has sold this year copper ores to the value of 1612s. 6s. 5d.; ore ground for 45 fms. in length has been laid open, and better results may be expected next year. The sett is extensive, and contains six well-known lodes, three of which produced large quantities of ores in the adjacent mines.

GLIMAR.—During the year, the engine-shaft has been sunk 5 fms. 1 in.; Michell's flat-rod shaft sunk 28 fms. 1 ft. 6 in.; Field's shaft, 12 fms. 9 in.; 48 fms. of ore ground opened in the adit level; 31 fms. in the 10 fm. level; winzes sunk 18 fms., and rise 10 fms. The tin branches are from 1 in. to 3 in. wide; copper lode, 1 ft. to 2 ft. wide; and from present appearances, a profit to the shareholders may reasonably be expected in the coming year.

WHEEL ELLEN, in St. Agnes, is between the old Tywarthaile and the Great Wheel Bury range of mines, and has been worked to the depth of the adit level only, from which upwards of 80,000s. worth of copper ores have been raised. The mine is now about being worked again by a local and influential party, and a steam-engine is in course of erection, for the purpose of following the lodes down.

SOUTH GARRAS LEAD MINE, in Kenwyn, near Truro, was discovered by driving an adit into a hill, and when a depth of about 10 fathoms was obtained lead was met with: about 7000s. worth has been already sold, and 6000s. worth raised and ready for crushing, as soon as the machinery is complete. The ores are rich for silver, and fetch from 20s. to 30s. per ton. For some time past a large engine has been in course of erection, together with crusher, &c., and only 13s. per 256th share has been called for.

In this district, consequent upon the success of South Garras, several mines have been started by local parties, and most of them called at a premium. Among them,

EAST GARRAS, in St. Clement's, joins South Garras, and is supposed to take the old Garras lode, and other lodes parallel to South Garras. The mine has many advantages, in connection with ample water-power for working a wheel, and for dressing purposes; there is a run of rising ground on the course of the lode for nearly a mile in length, and by driving on it a distance of 50 fms., 20 fms. of backs will be obtained.

At PENHALDARVA MINE, in the parish of Kenwyn, an adit is being driven, and it is expected that the lode will be intersected at 15 fathoms deep in four or five months. It is stated that the lode was seen at 6 fms. deep, where it was worth 3 to 4 tons of lead and jack per fm. The strata are also said to be highly congenial for silver-lead ores. Should the lode be found as good in the 15 fm. level as the statements made would appear to indicate, another good lead mine would be added to the Truro district.

EAST ROSE, once the richest lead mine in the kingdom, and paying 50,000s. a year in dividends, was sold to a new company in Aug., 1854, and to avoid the great expense of working adopted by the old company, of having long cross-cuts to drive at every level to reach the lode, they commenced sinking on the course of the lode in the 100 fm. level (where it passed through the shaft), and during the year good progress has been made in opening the mine, fair returns made, and the prospects are such as to lead to the hope of early profits. At North Rose part of the sett the engine-shaft is down 150 fms. on the course of the lode, which averages 6 feet wide, worth 1 ton of ore per fathom from the 140, and can be taken away at a low tribute of 1s. 10s. to 2s. per ton. This part of the mine has required a large outlay during the year, but will now become profitable.

At PURSEN, the engine-shaft is down below the 150 on the course of the lode, which averages 5 feet wide. At Michell's, it is down below the 160, and ends driving on a good lode in the 150, north and south, and in the 140 south; here also the outlay this year has been very great, in preparing for working on the principle we stated above; but this being complete, the costs in future will be less, and the returns go on increasing. At Penrose's, large operations are also going on, with good prospects. The returns in the next account will be 700 tons of ore; and 997 persons are employed on the mine.

CARGILL was formerly a part of East Rose, but now worked as a separate concern. The present returns do not meet the cost by about 200s. per month, but the prospects of the mine are such as to warrant the expectation of early profits. Daubuz's engine-shaft has been sunk 54 fms. In the 30, a good bunch of ore was met with; and the 40 fathom level, which has been driven 24 fms. south-west, lode 18 in. wide, worth 9 cwt. of lead per fm., will soon be under the branch in the 30. The 50 fathom level has to be driven 8 fms. further to get under the ore ground in the 40. The new north and south lode is 3 to 4 feet wide, and has produced good branches of lead. The lode in the adit south from Burrow's shaft is 6 in. wide, with spots of lead.

#### THE EASTERN DISTRICT OF CORNWALL.

In the neighbourhood of Liskeard, the comparatively old lead mines of Trelawny and Mary Ann, which have made very large returns, and paid good dividends, have been expending large sums of money in extra machinery, and the former has paid 1024s. this year, and the latter 512s., with prospects of doing better for the future. Trelawny has sold 838

tons of lead, and has divided 900s. A large expenditure has been incurred in sinking Rosedown shaft to the ore ground lately discovered, and a new 70-inch cylinder engine erected, and which will be ready to go to work about Feb. next. The Rosedown lode has been driven upon between 30 and 40 fms., worth from 3 to 4, and even 6 tons of rich ore per fm., the present end being worth 3 tons. When the machinery is complete, and the shaft down, the mine bids fair to rival, if not surpass, its neighbour, the Phoenix. The mine is chiefly owned by a Salisbury Company, who, by their steady perseverance for so many years, well deserve their present success.

EAST CARADON.—At this mine, Symons's lode has just been intersected 20 fms. below the adit level, or 40 fms. from the surface. It produced large quantities of gossan in the adit. In the 20 it is 5 feet wide, composed of fine gossan, intermixed with quartz, green carbonate, and spots of copper ore. Levels will at once be driven east and west on its course, and the shaft sunk deeper. In driving east about 10 fms. a caunter lode will be met with, which was seen in the adit level, spotted with copper ore. Where intersections of this kind have taken place in the adjoining

WHEEL WREY, in St. Ives and Hennebury, on the estates of Sir John P. Wrey, Bart. The mine was first put to work in August, 1854, and divided into 1024 shares. The expenditure for 14 months, to the 1st Oct., 1852, was 394s. 19s. 11d., and at this time a lease for 21 years was granted, and the mine subdivided into 4096 shares. In May, 1852, the western lode was discovered, producing lead, and a winze was sunk upon it 2 fms.; very little, however, has been done on the lode since. In Nov., 1852, the present rich lode was discovered, and an adit level extended south upon it into the hill, on which an engine-shaft was sunk, and soon after, in 1853, a 22-in. cylinder engine was erected, and up to May, 1854, two parcels of lead ores were sold—viz., 9 tons, realising 131s. 4s. 6d. At this time, Mr. Peter Clymo, the manager of South Caradon, became manager and purser of Wheel Wrey, and, to the end of 1854, 213 tons 17 cwt. of lead, were sold, realising 3889s. 6s. 8d., and in the present year, 894 tons 19 cwt., realising 15,568s. 18s. In September last a 60-in. cylinder steam-engine was erected on the same shaft, and the 22-inch engine is now applied to draw and crush the ores. The total amount paid in calls before the mine became profitable was 17s. 3s. 3d. per share, and in Feb. of the present year the mine paid its first dividend, of 4s. per share, and has paid altogether this year 16s. per share, or 3276s. 16s. The lead ground opened in the 12 is about 200 fms. long, and in the 23 fm. level 140 fms. long, through a very productive lode, and both ends still very good. The 33 is extended 73 fms., where the lode is also productive, so that the prospects of the mine warrant the expectation of much better dividends ere long. The engine-shaft is down 40 fms.

WHEEL LUDCOTT adjoins Wheel Wrey, but the prospects, up to the middle of this year, were not very bright, and shares down to 10s. per 4800ths. The workings were then confined to the west lode, but as it was found the water was sinking in an adit driven on the Wheel Wrey lode, winzes were sunk in the kindliest parts of the latter lode, and resulted in the discovery of lead a few fathoms under the adit, from 4 to 10 cwt. per fathom in different places. This circumstance, and the pecuniary affairs of the company being placed in a more satisfactory position, have sent up the price of shares to 50s. The first sale of ores, of about 40 tons, is likely to take place ere long, and it is hoped the quality will be as good as that of Wheel Wrey, the workings being about 80 fms. apart. Another lode has also been found at Ludcott.

EAST WHEEL WREY is a much younger, but also a promising, adventure, situated to the north-east of Wheel Wrey. A shaft has been sunk about 4 fathoms, a fine lode met with, from 4 to 5 feet wide, composed of gossan, mundic, prian, and stones of lead ore. The sett is extensive, and commands a stream of water for draining the shaft to a good depth, and also for the purposes of drawing and crushing.

At WHEEL VENTON, although little has been heard of it during the year, the adventurers have not been idle in developing their sett. After driving a cross-cut in the 30 east for the entire length of the sett, in which driving they met a promising branch of ore, supposed to be a continuation of the Trevelth lode, they have decided to see the lodes 60 fathoms deep, and a 50-in. steam-engine is now in course of erection for that purpose. Though the company have hitherto been unsuccessful, the mine is well thought of in Cornwall, and promises good results at the deeper levels. The new engine will be at work in about two months' time.

TREWETHA, after meeting calls for the purpose of erecting more powerful machinery, has again entered the Dividend List, with prospects of continuing to pay.

HERODSFORD, instead of paying dividends this year, made a call upon the shareholders. A deep and expensive mine, the fall in the price of lead at the latter part of 1854 made a difference in its sales of 300s. per month, whilst the expenses were rather increased than diminished. At present the mine is looking much better, and again working to a small profit. The lead sold this year has been 305 tons, yielding 4250s.

Among the copper mines in this district, SOUTH CARADON continues its prosperity, and has this year divided 12,288s. profit, and the shares have remained almost stationary.

WEST CARADON has declined considerably, and has paid in dividends 4152s., against 10,496s. in 1853, and 6912s. in 1854. About two months since a serious breakage occurred in the old engine-shaft, which greatly retarded operations, and caused the water to rise in the mine to the 92 fm. level, thus preventing approach to the different levels 50 fms. deeper, and the returns were consequently diminished. This damage has now been remedied, and the mine again in full operation.

GONAMENA had commenced paying dividends, but as there was no communication with the productive part of this mine except through West Caradon, and the adventurers in the latter mine declining to permit Gonamena ores to be any longer drawn through their shaft, it was necessary to sink Gonamena engine-shaft to the 80 fm. level, and communicate with the south part of the mine, before further sales of ores could take place. This has now been done, and a crushing and drawing-engine erected; sales of ores, therefore, are likely to be resumed early in 1856. Since last year an addition has been made to the sett northwards. Shares have advanced from 15s. to 30s.

CRADDOCK MOOR.—At the commencement of 1855 the shares in this mine were 12s. per 1055th, but in consequence of the intersection of Vivian's lode of West Caradon in the 32, and afterwards in the 42 fm. levels, worth in each from 2 to 4 tons of copper ore per fm., shares advanced to 40s. each. The great length of the sett on the course of the lodes, and the fact now ascertained of their productiveness, make it probable the mine will rival either South or West Caradon. An engine for crushing and drawing is just ready to work; and the first sale of ores, of about 100 tons of good quality, is likely to take place in January or February.

WHEEL POLLARD is immediately adjoining Craddock Moor, and takes the run of the "Vivian lode." A steam-engine has been erected, and the shaft is being sunk to intersect the lode 25 fms. below the adit, and which point may be reached in about four months. Few progressive mines, looking at the price of shares, offer better prospects than this. The shaft contains several branches impregnated with copper ore, and the coming year is likely to see the mine in the Ticketing List.

PHOENIX MINES have in five sales this year realised 21,685s. 14s. for 2529 tons, and has divided about 10,000s., though it is impossible to give the exact amount, for purser, captains, and shareholders are all bound, or bind themselves, to secrecy in regard to the mine and all connected with it. We have known gentlemen, who in other mines have been free and open, and anxious to advance mining interests by giving every information in their power, who have suddenly become close and uncommunicative, as soon as they have purchased a share in this mysterious adventure. The bottom level is 140 fathoms from surface, and the gossan not yet left the lode.

NORTH PHOENIX.—The shaft is down 45 fathoms, and good branches of copper ore found in sinking. In five or six months the lode will be cut in the 60 fm. level, and the mine may take a prominent position. The shares are in very few hands, and well held.

WEST SHARP TOR adjoins Phoenix on the north, upon a parallel lode. The shaft is down 90 fms., lode 10 fms. wide, underlying south; a cross-cut is being driven through the lode at this point, which must take many months. A flat-rod shaft is being sunk 100 fms. eastward, in killas. Appearances would dictate the propriety of confining operations for the present to this point. This shaft is sinking for 24s. per fathom, whilst the cross-cut through the lode at the engine-shaft is set at 25s. per fathom. If operations had been commenced nearer to the valley the chances are, if the general condition be considered, that with the present total outlay a good mine would have been secured.

MARKET VALLEY has sold copper ores this year amounting to the sum of 10,135s. 5s. 6d., and has divided 900s. A large expenditure has been incurred in sinking Rosedown shaft to the ore ground lately discovered, and a new 70-inch cylinder engine erected, and which will be ready to go to work about Feb. next. The Rosedown lode has been driven upon between 30 and 40 fms., worth from 3 to 4, and even 6 tons of rich ore per fm., the present end being worth 3 tons. When the machinery is complete, and the shaft down, the mine bids fair to rival, if not surpass, its neighbour, the Phoenix. The mine is chiefly owned by a Salisbury Company, who, by their steady perseverance for so many years, well deserve their present success.

EAST CARADON.—At this mine, Symons's lode has just been intersected 20 fms. below the adit level, or 40 fms. from the surface. It produced large quantities of gossan in the adit. In the 20 it is 5 feet wide, composed of fine gossan, intermixed with quartz, green carbonate, and spots of copper ore. Levels will at once be driven east and west on its course, and the shaft sunk deeper. In driving east about 10 fms. a caunter lode will be met with, which was seen in the adit level, spotted with copper ore. Where intersections of this kind have taken place in the adjoining



mine, South Caradon, the results have proved most favourable. The water in this part of South Caradon, is kept under by a flat-rod connected to an excellent 40-inch cylinder steam-engine, of sufficient power to drain the mine to a considerable depth. Immediately under the engine, is a shaft 80 fathoms below the surface, where a cross-cut is being driven south, to intersect other lodes which have been very productive in South and West Caradon Mines. As a whole, the prospects are very favourable.

**TOKENBURY CONSOLS.**—The engine-shaft, sinking on D lode, is now 65 fms. below adit, or 106 fms. from surface, and the lode of a promising appearance; it is intended to sink to the 65 fm. level, and then drive west on the course of this lode to get under large quantities of gossan seen at the surface.

**BERRIOW CONSOLS.**—The adit level north on the main lode has been driven to 110 fms.; lode from 8 to 9 ft. big, with small portions of black and yellow copper ores, and plenty of fluor-spar. A shaft is also sinking east in the killas below the adit, where the lode is also of a kindly appearance.

At **WHEAL ROBINS**, St. Neots, in the early part of the year, two very promising copper lodes were discovered; the depth, however, being considered too shallow for any particular result, the adventurers decided to see the lodes in the 75 fm. level. The engine-shaft is now in course of sinking to that depth, and in about three months' time the lodes will be intersected. This, the St. Neots, district is comparatively a new one, and the Wheal Robins Company may almost be termed its pioneers. The chances are good, the sett being situated at the junction of the killas and granite, and should any discovery be made the mine can be worked at a low cost, the machinery being of the most ample and extensive description, with an unlimited supply of water-power.

**CARVATH UNITED** are near the town of St. Austell, and are in extent 600 fms. on the run of the lodes from east to west. Several lodes traverse the sett, in a whitish soft schist, of a most congenial character for mineral deposits. When wrought 50 years ago, the copper ores raised (about 800000 worth) averaged, under a low standard, 144 lbs. per ton; but the machinery at that time being inadequate to drain the mine effectually, it was of necessity abandoned. The present company erected a steam-engine in 1854, and the operations are principally confined to the north lode, which is large, strongly and highly mineralised. In the 10 fm. level an extent of 50 fms. of tin ground has been opened, and in the 20 the lode has been recently intersected, and found to be rich. An underlay shaft is being formed from the adit, and as soon as this is communicated with the 20, that level will be driven east and west, when a rich course of tin is expected to be laid open. The lode varies from 6 to 10 ft. wide, is well defined, and contains on the north part a good and distinct lode for copper, separated from the tin part by rich priam, and promising large deposits in depth. From the great facility with which this ground is worked, the present expense being only 30s. per fm., an important saving in cost will be effected, and the mine more speedily developed. Two smaller engines have been procured, one now in course of erection for stamping alone, and the other for drawing and crushing; when these are in active operation, good profits may be realised. Two small parcels of ores have been sold, and others in course of preparation. Amount paid up, 24. 5s. per share; and cash in hand, about 100000.

**PAR CONSOLS**, in the parish of St. Blazey, is amongst the first mines in Cornwall, divided into 6400 shares, 12. 2s. 6d. paid up, and produces rich copper and tin. Fresh leases for 21 years of a part of the sett have just been completed, from Lord Mount-Edgumbe and the Messrs. Carthew, for which a bonus of 400000 was demanded, in addition to a full rate of dues, a course hitherto, perhaps, unprecedented in the county of Cornwall, the lords in general being well disposed to grant their lands for mining purposes at a fair royalty. This matter having, however, been arranged, and the bonus paid, besides nearly 130000 for land destroyed, the working of the mine is being prosecuted with great spirit and energy. Vast and extensive works are in operation. A shaft, which is also to contain a man-engine for raising and lowering the miners, will be sunk to take a lode at 220 fms. from surface, and such are the prospects, that it may be expected the mine will exceed anything it has yet done, though it has already paid in dividends about 170,00000. The accounts are audited every four months, and the last statement of the purser, Major Davis, shows returns for that period of 23,832. 1s. 7d., with an expenditure of 15,649. 16s. 8d., and a balance of 5512. 14s. 9d., after deducting the dividend, was carried to the next account. Total returns for the year 1854, yielding the sum of 46,788. 7s. 8d., and profits divided 76800.

At **WEST PAR CONSOLS**, a very promising lode (5 ft. wide) has been cut west of the cross-course, in the 45 fathom level, composed of fine gossan, thickly impregnated with native copper, and presenting every indication of becoming very productive when further developed. A level is now being driven west upon it, and the shaft is being sunk as rapidly as possible. The machinery at this mine is very substantial and powerful.

**GREAT POLGOOTH TIN MINE** (St. Austell), in 13,750 shares, 4l. 5s. paid, is one of the oldest mines on record, and yet is only 116 fms. deep. It has been celebrated in the histories of Cornwall, and has successively enriched various companies, returning at some periods enormous quantities of tin. When the present company took the mine, in 1851, the St. Martin's, or Champion lode, was discovered by an elvan, which intersected it at about 84 fms., but at the 96 a good course of ore was opened for upwards of 80 fms. in length, with indications of improvement in depth and increase of length, as the ore dipped eastward, and to prosecute this effectually has been the chief object of the company. In the 106 a large extent of valuable tin ground was opened, and the lode in the 116, after having been for some time mixed up with the elvan, is now getting better. The quarter ending Aug. 31 showed a profit balance, and as no debts are allowed to accumulate, it is expected the mine will soon again pay dividends. An invention, by Captain R. Hancock, has just been registered, and is about being tried on this mine, for the more effectual and economical dressing of tin ores. The costly expense of rendering this description of ore merchantable, the great number of hands, and the many processes it has to go through, almost necessarily involve a considerable waste of the ore itself; and it is hoped this machine may prove an advantage to tin mines, as well as a benefit to the inventor.

**WEST FOWEY CONSOLS** is an improving mine, in the same locality as Par Consols, and is in 6400 shares.

**PRIDBAUX WOOD**, also in 6400 shares, is under the same management as the former, and is a promising concern.

**CROW HILL** (St. Stephen's) is now in 2600 shares, 3l. 4s. 3d. paid up, a considerable number of them having been either voluntarily relinquished, or allowed to be forfeited for non-registration. The mine is a promising little concern, worked at a low cost by water-power, the produce being laid rich for silver. The lode, which at one time was nearly paying cost, became disordered by a slide in the 45 fm. level, and the ore is quite cut out. The adventurers, however, determined on a spirited trial, and have carried the shaft down 10 fms. deeper, and below the disordered ground, where a cross-cut has been driven, and after passing through hard ground, a pretty promising lode was intersected in the 55, in which operations are going on, with indications of speedy success.

**WEST CRINIS** sold this year copper ores to the value of 20777. 2s. 11d., the returns having considerably increased during the last six months, and for the next quarter it is calculated sufficient will be raised to meet the current cost of the mine. The engine-shaft is down 44 fathoms.

**WHEAL MESSER**, in the early part of the year, sold 318 tons of copper ores, yielding 12434. 18s.; and the lode was cut rich in the 50 fm. level, the deepest in the mine. Owing, however, to the death, and insolvency of large shareholders, very heavy calls have been made upon the others, and until the liabilities were cleared off, the operations were partially suspended. It is to be hoped the mine will soon be again in full operation.

**TRETOIL.**—An engine, with 12 heads of stamps, has been erected here, and the first sale of tin will soon be made. Since operations have commenced in June, shafts and levels have been repaired and secured, and Blind Will's shaft sunk 20 fms. from surface.

At **DEVIOCK WOOD**, the adit is being driven to hill, and the lode, although promising, is not rich.

**WHEAL GLYNN** is on the same lode south, and in the adit end it is reported to be of considerable value; no returns, however, have been made.

**TREVELL TIN MINE** is said to be a promising speculation, and a spirited company might make it pay. The lode is large and tinny, and could be worked by an adit 50 fathoms deep.

**UNION TIN MINE** is likely, it is said, to do well.

**GREAT OSNLOW CONSOLS.**—Great improvements are taking place here, and good and permanent results anticipated. The lode in the 60 west is looking much better, as well as the ground in the shaft, which is now a beautiful decomposed granite. A great saving is effected by water-power; the drawing the stuff is performed by a powerful wheel, and the pumping by an hydraulic engine, which reflects great credit both on the engineer and manager. The chances are, after all that has been said respecting it, the mine will make a good one.

**DUKE OF CORNWALL** has improved, but will not for some time pay costs. The ore is low-priced. **WHEAL FORTASCUE** (Lostwithal),—The lode here runs north and south, and has yielded several hundred pounds worth of silver in the gossan, and has been worked to a profit to the adventurers, without the aid of any other machinery than a windlass. The parties owning it were originally in search for iron, but found a richer mineral, and it is possible large profits may be realised from it.

**ST. DENIS CONSOLS** (near St. Austell) has very encouraging prospects, so far as regards the state of the mine, though the finances are not in the most flourishing condition. There is a 50-in. cylinder engine, driving 28 heads of stamps. The lodes are large and numerous, and producing fair average tinstuff. The china clay department is worked by virtue of the same engine, and large quantities can be produced. With the tin and the china clay good profits might soon be realised, with proper management.

**BOTALACK** has sold copper ores this year 873 tons, realising 14,311. 4s., exclusive of large tin sales, and has paid 800000 in dividends; great improvements are reported here, and much better dividends may be expected.

**LEVANT**, another of the oldest mines in this district, has much improved of late, and will also increase its dividends. The profits divided this year have been 96000.

**PENDEEN**, in St. Just, is between Botallack and Levant, and on a parallel lode, or, as it is called, on one of the three guide lodes of the district, the other two, those of Levant and Botallack, having realised enormous profits in those mines. The shaft is down 38 fathoms below the adit of 27 fms. In the 30 fm. level the lode became regular, with occasional good stones of ore, some of them yielding 14 to 15 per cent. of copper. In the 42, when the shaft reaches that level, two branches are expected to form a junction, and at this spot, which will be reached by the end of February, a good course of ore is expected.

**WHEAL MARGARET** stopped dividends for some time, but has resumed them again, and paid this year 112000.

At **EAST MARGARET**, a valuable lode has been discovered.

**CARNVORTH** is a new dividend mine, in the parish of St. Just, and has paid 9211 profit this year. The prospects are said to be excellent, and the present rate of dividends can be kept up, in addition to paying for new machinery.

**SPEARNE CONSOLS** has not paid dividends this year, a large expenditure having been made upon the mine. The prospects in the bottom levels are good for tin, and it is probable dividends may soon be resumed.

**SPEARNE MOOR** has paid 84000.

**WEST POLBERRO MINE** is situated in the parish of St. Agnes, adjoining to and on the west of Polberro Consols, abutting on the whole western boundary of that mine. Adjacent and in the same stratification are the Great Towan, Wheal Charlotte, Tywarhaile, Wheal Music, and other copper mines, which have paid large amounts of profit to their holders. West Polberro is a mile square, and contains upwards of 25 known tin and copper lodes, all intersected 50 fms. from surface by cross-cuts, extending more than a mile in length; consequently, they have a dry mine for 50 fms. in depth. It is held from the Duchy of Cornwall at 1-18th dues. The stratum is a pale clay-slate, overlapping the granite, radiating from St. Agnes Beacon, at the northern base of which the mine lies, analogous in position to the rich and famous mines at the base of the Carn Brea Hill. The number of shares is 6000; the calls 14. 15s. per share, amounting to 10,50000; sales of copper ore and black tin, 1100000, making an aggregate outlay of 11,60000. This sum has been devoted to sinking shafts on the North Seal Hole and Callow lodes, ventilating the whole length of cross-cuts, laying open for profitable working the large number of lodes, sinking to an 8 fm. level under the adit, and opening up reserves of ore and tin ground on the Callow lode, and sinking the sump-shaft on the North Seal Hole lode. The machinery at work consists of a 40-inch cylinder pumping, stamping, and crushing engine, constructed in 1855 by Harvey and Co., Hayle, designed by Hocking and Loam, at a cost for the engine of 120000; 16 heads of stamps, crusher, and their connections, at a cost of 30000. The engine is much admired for its simple arrangements, combined with great power. It is upon the single-acting principle, with capability of being increased in power equal to a 60-inch cylinder, at a merely nominal cost. There is also a water-stamp, driving 7 heads, with dressing apparatus, making the total number of heads available 23. Tramways are laid down both underground and at surface, for the transit of the ores to the stamps and crusher, and the tin-dressing appliances are upon the most modern construction, combining Wilkins's registered separator for separating the "roughs" from the "slime," and thus economising one-third of the manual labour usually required in dressing. Operations have been steadily and effectually progressing for the past two years; and, with the aid of the ample machinery now in full work, it is confidently expected that this mine will, ere long, pay a considerable profit. The Callow lode, from surface to 70 fms. in depth, averages 6 to 8 feet wide, and will, at its poorest place, well pay for stoping. Immense reserves of this lode have been laid open, and rich deposits of copper ore are being raised from it; and in depth it increases in size and productiveness. On the North Seal Hole lode, an adit has been driven on its course for more than 60 fms., and the engine-shaft (Mason's) is now 3 fathoms under the adit, sinking in a splendid lode, 20 in. to 2 ft. wide, and draining the whole run of ore ground gone over in the adit. A winze is sinking 9 fms. east of the shaft, from which 6 tons of good quality copper ore was shovelled up from about 6 ft. of ground; and the end driving west, about 20 fms. from the shaft, is also in a splendid lode, 18 in. wide, of rich black oxide of copper, munda, and fluor-spar. These facts would seem to indicate that an extensive deposit of ore may be calculated upon on this lode, an important feature being, also, that a cross-course of large size intersects it near the engine-shaft; and the lode being proved to be making rich on both sides of the cross-course, the only presumption is that it will carry with it in depth what is technically called in Cornwall a "gulf" of ore. The management is in a committee, among whom are gentlemen practically acquainted with mining, who sit weekly for the dispatch of business. The offices are in the city of Bath; the secretary is Mr. Alfred Mason, of that city; the purser is Mr. Mayne, of Truro; and the agent, Capt. Thomas Julian, on the mine. The meetings are held every three months, when all accounts are submitted to date. There is no debt on the mine, the engine and machinery being all paid for; and the cost is estimated, and funds found, from meeting to meeting, as required.

**SWANPOOL** is selling good quantities of lead; and calculating the November ores at 90000, the company will have a balance in hand of nearly 110000; whilst the mine is looking well, and the lode near upon being cut in the 80 fm. level.

#### TAVISTOCK DISTRICT.

The **DEVON GREAT CONSOLS MINE**, the wonder and the making of this district, has been referred to amongst the large dividend mines, and need not again be particularly noticed here. A great number of young concerns have sprung up around Tavistock within the last year, one-half of which it will be impossible to notice or particularise.

**SORTBRIDGE CONSOLS**, which at this time last year had sold 442 tons of ore, yielding 452500, has this year sold 935 tons, realising 10,515. 17s. 6d. We stated in our last Annual Review that various opinions were expressed in regard to the mine, many persons then inclining to the belief that it would be found merely a rich deposit or bunch of ore, whilst others looked upon it as showing indications of a rich and lasting mine. Down to the 30 fm. level the indications were most encouraging, but below this level the fine easy ground (with a lode yielding from 8 to 10 tons of ore per fathom), became harder, and the lode in the 40 had more of hard killas and capel, and with comparatively little ore, leading many practical men to suppose that the bunch of ore was got through; since this, however, the lode has been cut in the 50, 34 feet wide, worth 14 ton per fm. At Alfred Consols, a very rich bunch of gossan ore was originally discovered near the surface, and shares rose to a very high price. In sinking a few fathoms the ore entirely cut out, and many shareholders got rid of their interest in the mine. Some, however, had more patience, and although they sunk upwards of 40 fathoms deeper, through unproductive ground, they were eventually rewarded by meeting with their present rich courses of ore. I mention this merely to illustrate that oftentimes when bunches of gossan copper ores are met with at shallow depth, and cut out, it often happens that larger deposits of copper are found in depth; and even should the present bottom level in Sortbridge fail, another deposit may be found in depth. The reserves in the mine are now valued at 35,00000.

**GREAT SORTBRIDGE** is looking poor. At **SOUTH ROBERT** a fine lode has been met with near the surface.

**SOUTH ZION** has been started within the last few months, with a respectable proprietary, in 4000 shares. This is a piece of unexplored ground immediately to the east of the town of Calstock, and adjoining the River Tamar, an adit level is opened about 60 fms., and an engine is in course of erection, whereby it is intended to sink the shaft 40 fathoms upon the course of No. 2 east and west copper lode.

**OLD BUTE'S PILL** is about to be re-worked, as Bernalstone United, in 7000 shares of 10s. each, without further liability. The old workings comprise an engine-shaft 66 fms. from surface, and upwards of 500 fms. of levels opened down to the 37. The lodes traversing this sett are a continuation of those of South Tamar Consols and East Tamar.

At **NORTH WHEAL ROBERT** the operations are being carried on with spirit, and the returns are gradually increasing. At the beginning of the year the sales of ore were little more than 4000 two-monthly, they are now about 12000, and monthly samplings are now about to be commenced, which in a short time, it is expected, will place the mine in the Dividend List. The whole of the returns have hitherto come from the eastern, or original mine; but the company have lately been expending some thousands in laying open a new mine, about 85 fms. from Sortbridge boundary, where some discoveries have already been made; but it is at a deeper point (the shaft at this part of the mine being down about 36 fms.) where anything lasting is looked for. When the western mine is further developed, it is probable that this concern will be a very extensive and profitable one. The reserves are valued at full 15,00000. Ore sold this year, 590 tons, 4845. 16s. 11d. The cost for 12 months, 7005. 11s. 9d.

At **EAST WHEAL RUSSELL**, some rich ore has been reported lately in the 55 fm. level east, but no course of ore has yet been discovered. It is to be hoped, after all the very confident opinions on the extraordinary lode at this mine, expressed by some of our most prominent "practical men," and the meritorious perseverance of the shareholders, that for the sake of "one and all," a good mine may be found here. The shaft has been sunk 100 fms. deep, where a level is about to be driven on the course of the lode, which is uniformly upwards of 30 ft. wide, composed principally of gossan.

At **BORINGDON CONSOLS**, the shaft is being sunk in order to cut the lode under an elvan, where, it is the opinion of good authorities, it will be found valuable. About six or seven months will likely, in a great measure, prove this to be right or wrong.

At **LYDFORD CONSOLS**, a winze is being sunk under the adit, the lode in which is all the width of the winze, and part still standing to the east; 2 feet of this lode is producing lead work that will pay for dressing. The end of the 13 fm. level south under adit is about 20 fms. from this winze, and the lode is producing a little lead. In the 13 north the lode is large, and producing good stones of lead in places. About April it is expected that the lode will be cut in the 25 fm. level, where good deposits of lead are confidently expected.

At **WEST SORTBRIDGE**, a good lode has been cut in the 10 fm. level, and a copper lode daily expected in the 20.

**EXMOUTH AND ADAMS** has sold 1208 tons 9 cwt. of lead this year, realising 15,352. 6s., and has paid 256500 in dividends. A considerable quantity of machinery has been paid for out of profits of late, or the dividends would have been larger. The mine never looked so well, and the returns are likely to be 150 tons a month in 1856, and the dividends larger.

**FRANK MILLS** adjoins Exmouth on the south, and a very rich lode has been discovered in the 60 fm. level. There are 5000 shares, 24. paid, and about 10s. per share more will be required for winding and crushing machinery. The mine has good prospects.

At **SILVER BROOK MINE** (which is in the same district as Exmouth and Adams and Frank Mills Mines), the shaft is down 5 fms. below the 44 fm. level, in which the lode contains some good lead ore, and improves in sinking. The 44 north is worth 100. per fm., and the 44 south, saving work. The slopes north of the engine-shaft are worth 90. per fm., and the south slopes are yielding moderate work. At a deeper level it is expected that the lode will be found much more productive. The agent states that there is a great similarity between the Silver Brook and Exmouth and Adams lodes, and that at the latter mine no ore ground was met with until they were down from 50 to 60 fms., while 180000 worth of ore has already been sold from Silver Brook Mine.

**WHEAL TREHANE** has divided this year 153600. A few months since the mine was looking dull, but the bottom level is now worth 400. per fathom. For a small mine, few in Cornwall have done better.

**DEVON BULLER.**—At this mine, which offers good prospects of early success, a powerful steam-engine has been erected, and the shaft sunk to the 32 fm. level from surface. In the 20 fm. level there is a fine productive lode, with a matrix of quartz and arsenical munda, many fathoms in length; and this will soon be cut in the 32. The mine is in killas, with a cross-course to the east of the shaft.

**TAVY CONSOLS** has for a long time been in the shade, but, a short time ago, a good lode was met with in the 56 fm. level east, and also in a winze, and created a little demand for the shares, which rose from a few shillings to 10. and upwards. Should the next level be found equally productive, the shares would rise considerably. There is plenty of machinery on the mine for crushing, and a splendid water-wheel for pumping. A cross-course of fluor-spar passes through the lode, not far from the shaft.

**LADY BERTHA**, about which so much has been written, *pro and con*, during the last two months, is adjoining Tavy Consols, both being situated in a deep valley, one on each side of the River Tavy. A fine course of ore was met with, shallow, at Lady Bertha, and shares rose to 20. each, or 12,00000 premium, but it did not hold equally good, and it is impossible to say what the mine may turn out in depth, until more is seen of the lode.

**WHEAL CARPENTER** (South Sydenham) at this time last year was making good returns of copper, and showed prospects of success. Good quantities of copper and lead were also sold this year, but a few months since the mine and machinery were sold in one lot, to a company who are now working it, under the name of **WEST COLLACOMBE**.

**GREAT SHERA** has sold 1146 tons of copper this year, realising 258800. The mine is well situated, and has excellent prospects.

**EAST WHEAL GEORGE** is progressing favourably, at a moderate cost. The mine is in the neighbourhood of Sortbridge and North Robert, and from a shallow bunch returned 660 tons of copper, realising 59000. 16s. 4d. The shaft is now being sunk below the 56 fm. level, and the lode is being driven upon east and west at that point. The samplings are about 20 tons of copper ore every two months. The cost of the working is about 1200. per month, the mine having the advantage of a water-wheel for pumping, and for dressing the mineral. This mine has had a similar rich bunch of ore to the Sortbridge Consols, and has, without intermission, made regular samplings since it commenced working; but the bunch only lasted from the surface to the depth of about 20 fms., and then became a dredged lode, afterwards unproductive, but with appearances which justify a continuance of operations, in hopes of discovering another bunch of ore.

**WHEAL FRANCO**, in the same neighbourhood, made large returns (upwards of 30,00000 worth of ore), west of a great cross-course which runs through the district and along the eastern boundary of West Sortbridge, and which heaved Franco lode 160 fms.; and it was a long time before the present company again found east of the cross-course. Operations of late have been, driving on a promising lode in the 86 fm. level, and driving in the 100 fm. level.

**YEOLAND CONSOLS.**—The shaft is down about 80 fms. from surface, and is sunk on the course of the lode, which has yielded altogether nearly 14,00000 worth of tin. The monthly returns are expected to increase as the deep levels are opened upon and extended.

**WHEAL LANGFORD**, in the Callington district, has during the year made good discoveries in silver, but the adventurers are sinking the engine-shaft with all speed, looking forward to a good copper lode in depth, as at each level the lode has improved for copper.

**KELLY BRAY** is a part of the old Callington Mines. The present management have got new leases from the Duchy of Cornwall and Lord Ashburton, and from the discoveries made in the 80, 90, and 100 fm. levels, they are in a position to return 90 to 120 tons of copper ore per month. At the end of this month upwards of 300 tons will be sampled.

**HOLMBUSH MINE**, in 1000 shares, about to be increased (probably to 5000 shares), is situated near Callington, Cornwall, and from 1838 to 1844 made a profit of 39,1024. It fell into trouble from a sudden eruption of water from the adjoining mines, when they stopped; this has since been thoroughly drained, and the mine is once more, after great expense, in good working condition, with a fair prospect of success. Several very promising discoveries have been made, the chief of which is the discovery of a valuable lead lode west of the old lead lode, and all in whole from the 120 fm. level, where it is cut to the surface; and the discovery, for the first time in the history of the mine, of the main Holmbush copper lode in whole ground west of the old lead lode, from the 132, where it is first cut to surface. The copper ore here, and at the diagonal shaft, where also a valuable discovery of ore has taken place, yields, by sample, 20 per cent. of copper; the lead yields 25. per ton. The Flapjack lode is also a rich one, increasing in value as the explorations deepen. There is a course of ore of considerable length in the bottom of the 145, producing from 1 ton to 2 tons of copper ore per fm. It is confidently expected that by continuing the present monthly expenditure in laying open the recently discovered ore ground, the company will again, in a short period, make it a dividend-paying concern.



**MOLAND MINES** has sold copper ore this year to the value of £70,136. 3d., and there are 20 tons of copper ore at Swansea for sale against December cost of 100s. The price of these shares would appear to be ridiculously low, compared to the state of the mine.

**WHEAL SYDNEY** (in Plympton) a year or two since gave promise of early dividends, but the expectations have not been realised. The mine is now in a far more favourable position than it was a few months since, and may shortly meet its cost, if not realise profits. Altogether, upwards of 100 tons of tin have been sold, making from 60s. to 80s. per ton.

**SOUTH CRINNIS** is a new dividend mine this year, and has paid 7680s. It is situated in the St. Austell district, bounded on the north by West Crinnis, and on the east by Great Crinnis. The shares are chiefly held by local parties, and upon 18s. paid the price reached 300s. During the first six months of this year very large returns were made, and all the dividends paid in that time. Of late the bunch of ore failed, and no dividend was declared for six months. In the 20, below this bunch, little or no ore was found, but in the 35 a great improvement has taken place.

**POWELL CONSOLS**, formerly one of the richest mines in Cornwall, ceased paying dividends for many years, but has again entered the list this year, by paying 494s.

**FENBROKE AND EAST CRINNIS**.—Additional capital has been raised to develop these mines in depth. The sump shafts are being sunk with all dispatch. The adjoining mine (Wheal Unity), belonging to the company, has been unwatered, and the agents find good tribute ground for copper, and also have discovered silver ores. Three or four important points will come off during the next few months.

**GAWTON UNITED** has progressed very favourably this year, and the mine holds out prospects of becoming remunerative. About 50 tons of ore will be sold shortly, and the monthly returns will, it is said, yield a profit for the future.

**WHEAL TRISTREM**.—This mine, which has been prosecuted in a very spirited manner, has not yet rewarded the adventurers. Occasional good bunches of tin have been cut, but not holding long enough to pay cost. The present 66 fm. level end east is a promising point; it is letting out a great quantity of water, and producing a mass of gossan. In the 40 cross-cut also a good lode is expected to be intersected daily.

**WHEAL FRIENDSHIP** (near Tavistock) is the oldest mine in the district, and has been under the management of Mr. John Taylor for more than fifty years, and during which time it has made a profit of more than 300,000s., besides having provided a large sum for working Wheal Betsy, formerly a part of the same adventure. The mine, although worked for so many years, is not a deep one, the bottom level being the 220 fm., and on the underlie of the lode they are now sinking for a 230, in very favourable ground. During the last eighteen months a large sum out of the balance has been expended in extensive trials on the old lodes, and in exploring the virgin ground in the southern and eastern portions of the set.

In the southern part a very promising lode has been discovered, named Kent's lode. This has been driven upon in the adit for a considerable distance, and worth most of the way 20s. to 30s. a fathom. It has also been cut in the 60, and will shortly be driven upon in this level, as a communication has just been made with the adit level for ventilation. Cross-cuts towards this lode are also being driven in the 100 and 160 fm. levels from the old mine. There are several lodes yet in the old mine which are returning fair quantities of ore. Monthly returns about 150 tons of good quality ore, but which, it is expected, will be materially increased by the explorations on Kent's lode, and by the others in the old mine. The works are carried on very cheaply, by means of powerful water-wheels.

**WHEAL ARTHUR** has sold 2117 tons of ore this year, realising 12,528s. 2s., and has divided 3070s.; the quality of the ores seems very much to have deteriorated of late, and shares, which at this time last year were 30s., have receded to 7s.

**WHEAL EDWARD** is considered a very promising speculation, and has progressed favourably during the year; many think it will make a better mine than Arthur.

**WEST MARIA AND FORTESCUE**.—These mines, now consolidated, immediately adjoin the Devon Great Consols to the west, and have had large sums of money expended upon them, hitherto without any good results. The present operations consist in driving the cross-cut adit, which has been driven 106½ fathoms; and driving west on the counting-house lode 23 fms., where the lode varies from 2½ to 3 ft. wide. These drivings will continue, as good results are looked for before long.

**COLLACOMBE MINE** (in Lamerton) commenced working in March, 1853. The mine is north of Great Devon Consols, and was taken up chiefly by parties connected with the latter mine, who subscribed a paid-up capital of 7500s. The engine-shaft is now down 62 fms., at which point a cross-cut has been commenced for the intersection of the south, or main lode. In the 50 fm. level west the lode is of a promising character, worth from 20s. to 30s. per fathom. The stopes in the back are worth from 10s. to 50s. per fathom. The pitch in the back of the adit level is being worked at 6s. 6d. in 1s., and the lode is worth 20s. per fathom. The ores sold this year have been—first sale, 78 tons; sold in Sept., 686s. 8s. 2d.; ditto in Nov., 140 tons, 887s. 0s. 9d.; the next sale, in Jan., will be 180 tons, and the mine offers good prospects of soon being a dividend-paying one.

**HAWKMOOR**, in Calstock, extends east to join Bedford United, and is upon the same lodes. The sales of copper and tin have realised the sum of 5020s. 12s. 10d. above the 30 fm. level, thus showing that the lode has been productive of rich branches of copper ore, of excellent quality; and looking at the locality, and the profits realised at Bedford United at deeper levels, the prospects at Hawkmoor may improve as the works get deeper. The eastern sump-shaft has been sunk to the 40, and the level east just commenced. The shares are well held, and in few hands, which accounts for the little business doing in them.

**SOUTH TAMAR CONSOLS** has paid this year 8325s. in dividends, against 10,125s. last year; this decrease in the profits is caused by the low price given by the smelters for the ore. Soft or pig-lead did not command so good a price for the first half of the year, but for the last six months the price has been higher than for many years past. The disturbed state of affairs, political and monetary, had its effect, but the main cause of the reduction in price of the ore was the want of competition, arising from the cessation of the Tamar Smelting Company's works. The quantity of ore raised in the year has been 1390 tons, which realised about 27,800s. The working cost has been about 1450s. per month, or, for the year, including dues, &c., 19,193s.; this sum, however, includes the cost of a new steam-engine and other machinery and buildings, amounting to about 2500s. The actual profit therefore, may be estimated at rather more than 10,000s. As this company does not discount the ore bills, which are at three months date, they have always available assets in hand of about 7000s. The engine-shaft is now 148 fms. deep, and at this depth there is a fine ore lode, which, coupled with the fact that in the Tamar Silver-Lead Mines the lode is very productive in the 215, fully warrants the expectation that this will be a lasting and profitable mine. The number of men employed underground is 140, at surface 90, boys 51, and women and girls 20.

**EAST TAMAR CONSOLS** has been looking poor during the year; but the sales of fluor-spar have relieved and eased the cost, and there is yet hope the mine may be carried on to profitable results.

**TAMAR SILVER-LEAD MINES**.—These mines were placed under the control of the shareholders and a board of directors, chosen by them in March last. The north part, or North Flow, as it is called, has been stopped, and the materials sold; this has curtailed the cost, and the money realised by the sale of the materials is being expended in the renovation of the machinery, which was found to be in a most dilapidated state. Under the new direction, the south, and by far the most important part of the mine, has become profitable, and a dividend may be expected to be made at the meeting to be held in February next. The deepest level is the 215, where the lode in the south end is worth 21 cwt. of rich ore per fm., and the manager is now preparing to sink deeper. In the 190 the lode is very productive, yielding from 1 to 2 and 2½ tons per fm. The cost is about 900s. per month, and the returns average 1250s.

**BEDFORD UNITED MINE** has this year returned 2290 tons of copper, which realised 16,271s. 10s. The cost being for the same period 10,623s., thus leaving a profit of 5648s. 10s., and the dividends paid amount to 5800s. A new incline-shaft is sunk from surface to the 130, and the tramroad will soon be completed. In the 130 east they have just reached the fine course of ore that yielded so well in the 115, east of the slide; this level has been extended about 65 fms. west of the engine-shaft, principally in hard and poor ground, but within the last two months the lode has become productive, and yields about 4 tons of ore per fm. This is an important discovery, and will, in all probability, lead to the opening of a new mine, and be attended with very profitable results. The average number of men employed underground has been 122; at surface, including boys, 45; and of women and girls 26.

**HINGTON DOWNS** has sold this year 3138 tons, realising 22,615s., and has divided 8250s. The mine has had a serious fall of late, but it is now

recovering, the last sale was more encouraging, and the ore in the 85 west is improving for ore; now worth from 5 to 8 tons per fathom. As this is driving well into the set it is a point of great encouragement.

**EAST GUNNIS LAXE**, or as it is now called **800 ft. BURNING**, has been gradually progressing, and may be expected to pay cost from the present time, and be in the Dividend List during the year; the quantity of ore raised in the year is 380 tons, which realised 1718s. 5s. 7d.; the cost, including dues, amounts to 4287s. Two shafts have been sunk below the old workings, and one level, the 49, driven between them; the back of this level is in whole ground to the 36, and for a great part of the distance the lode is worth from 3 to 4 tons of good ore per fm., and in the bottom of the western shaft the lode is worth 5 tons. The present prospects of this mine are, therefore, great, and it has lately become a favourite in the market. The average number of men employed underground has been 54, and at surface, including boys, women, and girls, 36.

**AT THE UNITED MINES**, Tavistock, a 36-inch engine, capable of pumping, hauling, and stamping, has been erected, with a 30-foot water-wheel, stamps, &c. The lode has been laid open for 50 fms. in length at the adit, and about 3000s. worth of tin returned. There is a rich deposit of tin in the 80 fm. level, near the eastern cross-course, and it is concluded that the tin ground extends from cross-course to cross-course at this depth, 140 fms., and lengthens as it goes down, owing to the underlie of the cross-courses. There is also a parallel lode from 5 to 6 ft. south, also producing tin. The engine is at work, and the mine is now making profits, which will be rapidly increased, and dividends may be safely calculated on before midsummer. The machinery is paid for, and a balance in hand.

**WHEAL EMMA** (Buckfastleigh, Devon), in 4000 shares, dues 1-18th part of the profits—a novel feature in mining. A cross-cut adit has been driven, and a lode cut and since driven on 40 fms., through a lode which has returned over 150 tons of rich copper ore. In rising the shaft the black, grey, and yellow ore were formed up in the gossan, which is very fine, and the lode from 8 to 10 feet wide, and is still good. This mine rapidly rose in value from 1s. to 20s. per share; and will be, it is said, in the Dividend List in 1856.

**BROOK WOOD** (Buckfastleigh), 4000 shares, dues 1-18th of the profits, lies to the east of Wheal Emma, on the same lodes. An adit has been driven on a fine lode, and ore has recently been discovered.

**WHEAL TREERY** (Buckfastleigh, Devon), in 4000 shares, dues 1-18th of the profits, lies west of and between Wheal Emma and the granite, and the lode has been cut in it much of the same character as Wheal Emma presented at the same depth.

# WALES.

In Flintshire, mines have progressed but slowly.

**OSKEDD**, twelve months since, gave promise of early dividends, but the lodes proved of a very bunchy character, and the returns of lead diminished so much that, at one time, a question arose whether the mine should be further prosecuted or not. About two months since, a new lode was discovered in the 30 fm. level, worth from 2 to 3 tons of lead per fm., and which has continued productive; and a cross-cut is now being driven to intersect it in the 20 fm. level. The mine has sold 136 tons during the year, realising 1872s.

**MERLLYN**.—The old mine here (which, upon a small capital of 2250s., in two years sold upwards of 30,000s. worth of lead, and paid 7500s. in dividends) has been abandoned, the lodes proving—like most others in the district—very rich at shallow levels, but poor in depth. The company, however, turned their attention, to Brynfered, an extensive piece of ground to the north of the old workings; and here three shafts are being sunk, from all of which ores are being raised, and the prospects generally are exceedingly encouraging.

**AT GARREG**, the new engine-shaft has been sunk to the adit level, and the engine put to work; and in a short time they will commence sinking upon the ore discovered in the winze in the bottom of the adit some months since.

**MICHELL** is progressing favourably, and selling ores, although, hitherto, the operations have been on a limited scale. The mine is in the run of the Merlllyn and several other productive lodes in the district, and is likely, with its neighbour, **PEN-Y-GELLI** (also selling ores), to make a better figure before long.

**THE VALE OF TOWY MINE**, near Carmarthen, has paid its first dividend this year, of 1000s., and is returning, at a good profit, 100 tons of lead ores per month. The sales this year have realised 8522s. 5s. 1d. There are two engines on the mine, a 50 and a 24-in. The engine-shaft is sunk to the 40 fm. level. The ore in reserve above the 30 are calculated at 25,000s., and the dividends in 1856 will exceed 5000s.

**NORTH TOWY** has not made the progress that was reasonably anticipated; still the mine presents fair prospects of success. The lode in the 20 fm. level is large, and of an exceedingly favourable character for mineral, and at deeper levels, may make rich. The shaft will be sunk with all speed. During the year the mine has sold 55 tons of ores, realising 670s.

**PENLYNE COURT MINE** (Glamorganshire).—The workings here have been stopped, a bar of hard black limestone at the bottom of the engine-shaft having impeded all progress, except at a great cost.

**BRONFLOYD MINE** (Cardiganshire).—Only about 6 tons of lead ore have been sold from this mine during the year, the operations having been confined to the driving of a long adit, to come up under the old workings, and to the sinking of a shaft through, to communicate with the adit. This shaft is down 17 fms. in good ground, and considerable expectations are entertained of these works when through.

**ABERDOVEY LEAD MINE** (formerly called Melin Llyn-y-Pair), in Merionethshire, on the borders of Cardiganshire, in a stratum of killas highly congenial for lead, was purchased by Messrs. Crease, in 1854, on a new lease for 21 years, at moderate dues. Since then they have discovered a rich course of ore in three places—viz., the 12 and 22 fm. levels, and at the bottom of the shaft, about 30 fms. from surface, averaging from 3 to 4 tons of lead per fm. The agents report that there is over 12,000s. to 15,000s. worth of ore laid open. It is worked by machinery driven by a stream of water, which is ample to drain the mine to any required depth, and for crushing, stamping, and dressing ores for the market. There is a side lode of equal promise within 10 fms. of the main lode, and as the ground between costs from 4s. 10s. to 5s. 10s. per fm. for driving, this lode can be very cheaply worked, and, if it turns out as expected, will double the value of the property. The mine is within three miles of the port of Dovey, to which there is an excellent level road for the conveyance of ores and materials. The sale of lead last month was 19 tons 18 cwt. 2 qrs., at 15s. 9s., producing 307s. 3s. 3d.

**NANTOES AND PENRHUW** has paid one dividend of 375s. this year. The lode in the deep adit is yielding a little lead; the 46 west, 5 or 6 cwt. per fm.; east, 1 ton. To communicate the deep adit with the 46 fathom level west will take about six months to accomplish.

**AT LLANDUDNO**, during the year, operations have been chiefly directed to the upper beds of ore, from which sufficient has been raised during the last eight months to meet the costs of the mine. Treweeke's shaft has been sunk to a depth of 70 fms., passing through several distinct beds. In the upper part of the shaft a grey limestone bed, called the "little yellow copper bed," was sunk through, this being the only bed above the adit that bears exclusively sulphuret ores; this is 6 yards thick, and a level northward at 60 fms. yields sufficient copper to pay for driving. Below this is the "great shale," 9 yards thick, and the next the "blackstone bed," one which has proved productive in the south part of the mine. Immediately below the shale a cross-cut has been driven 8 yards eastward, with a view to cut Ellis's strings, in which works have been carried on in the 55 fm. level; there are 5 fms. more to drive to cut these strings. The 110 yard level, at Treweeke's, on Ellis's strings, has been extended 10 fms. north and 10 fms. south of the cross-cut, and considerable ground sloped away; in fact, one-third of the returns of the mine have been from this spot. The principal workings hitherto have been in those shallow beds; and as the course of ore dips down through several beds from one to another, and in the lowest part of the mine, north of the engine-shaft, there was still ore in sight that would work at a good profit before the old parties were flooded out. The present company propose, by addition to the machinery, to draw out this water, and adopt three modes of operation—to work the high ground northward, to open on the strings east of the engine-shaft, and to sink the shaft deeper, unbottoming the old workings on the run of the former large course of ore, in deeper beds than have yet been seen. From shallow beds this mine has yielded upwards of 150,000s. worth of copper ores, and as the ore is known to hold down, as the shallow beds now in course of being worked will meet the current cost, and as the capital in hand is ample for reaching the deeper beds, there are few such speculations as Llandudno.

**CAYLAN MINE**.—This mine has made one call of 600s. during the year. We had hoped to see it in the dividend list, but two levels have been brought from considerable distances to intersect two of the several lodes in

the set. The Eagle Rock and the South Eagle Rock lodes. One of these levels, having reached its termination, is being driven on the course of the South Eagle Rock lode, from which an ore has yet been raised, to get 86 fms. under ore ground discovered in the surface, about 40 fathoms further south. The other level, which is being driven towards the Eagle Rock lode, will intersect it about 15 fms. deeper than the present deepest level, in the course of a fortnight. This level will come in under the ore ground now being worked on in the upper levels. From the large and kindly appearance of the lode in these levels, it being from 6 to 18 feet wide, composed of quartz, gossan, carbonate of lime, and lead ore, the prospects are good of the ore ground becoming much richer in the deeper levels.

**AT GEIFRON MINE**, a 30-ft. water-wheel has been erected, and the mine drained to the 18 fm. level, where the lodes have been intersected, and are productive of lead; but greater depth is required to prove them profitably productive. In the driving of the 18 fm. level, on the No. 1 lode, the agent expects to meet with mineral to assist the monthly cost. The outlay is about 100s. monthly, and the main shaft is to be sunk 10 fms. at once, in accordance with the agent's recommendation.

**CWM ERVIN**, in Cardiganshire, is 69 fms. deep, but the lode between the 69 and the level above (the 57) has been disordered by a slide; and there is some difficulty with the present pumps in getting the water from the bottom of the mine when, from a stoppage of the wheel from frost or drought, it happens to get in. The length of ore ground has increased, and it may probably be found the lode will improve under the slide, and also eastward, when the levels are pushed forward. The returns during the last six or eight months have more than met the costs, and have in a great measure cleared off the losses incurred during the nine or ten weeks' stoppage of the mine by frost, early in the year.

**EAST DAKREN** is an extensive mine, and yields silver-lead. The set includes the old Cwmsymlog, notorious as being once the rich property of Sir Hugh Myddleton. The mine is provided with a steam-engine for pumping, when the water-wheel is stopped by drought, and also well found with other machinery for drawing, crushing, &c. The deepest level is 56 fms., and the returns about 70 tons of ore per month, with prospects of an increase as the works are extended. When the 44 fm. level is extended further eastward, it will unbottom and drain the old Cwmsymlog Mine for about 500 fms.

**CEFYR BRWYNO**, or **CEFYR CWM BRWYNO** (in Cardiganshire), is a mine of much promise, 50 fathoms deep, and with a considerable quantity of ore ground laid open, and which can be taken away at a moderate cost, when the deep adit, or 38 fm. level, is completed up to the mine, and which is now near accomplishment. This level will be extended eastward upon the main lode, where the ore is already laid open, and will be branched off upon other lodes, which, as yet, have been barely touched, and upon others which may be discovered. The returns are now about 60 tons of lead per month, and the first dividend, of 600s., was paid in October last, with a prospect of continuance at regular intervals. The mine is worked by water-power.

**BYNTAIL** (in Montgomeryshire) has very much improved within the last few months. A new lode was discovered a few fathoms from surface, and a level is being driven upon it, 10 fms. deep, giving, as it goes to hill, nearly 20 fms. of backs. This level has been driven through a continuous course of ore 20 fms. long; and in a winze now sinking the lode is worth 20s. per fathom: 22 tons of lead were sold at Holywell, on the 13th, 29 more are being sent off, and a short time will suffice to raise another 20 tons, and the monthly cost is only from 100s. to 120s.

# CUMBERLAND.

This county produces large quantities of lead, but the mines are chiefly carried on by private and local adventurers. The Governor and Company's Mines returned, in 1854, 6576 tons. The mines of the county altogether 9890 tons of ore, yielding 6662 tons of lead, and 42,020 ozs. of silver. The **GREENSIDE MINE** yielded 1600 tons of ore—1100 tons of lead, and 4400 ozs. of silver. This has been one of the most productive and profitable mines in the county, and the ores are all smelted on the spot. **BROWNLEY HILL** sold 1722 tons of ore, yielding 1106 tons of lead, and 3871 ozs. of silver. The **GOLDSBORO**, 365 tons of lead, and 1215 ozs. of silver. The **KESWICK MINES**, which are worked by a London company, have sold this year 187 tons of ore, producing 2432s., against 106 tons, and 1518s. of the year 1854. The chief mine, Brandleigh, has been opened to the 40 fm. level, where the lode is yielding more than the average produce of lead lodes. The prospects of the company have considerably improved during the past twelvemonth, and still better results may be fairly anticipated.

**NETHER HEARTH** is near Alston, and has divided 320s., or 1s. per share, upon 2s. paid up. The prospects for lead are considered good. The mine is worked by water power. Previous to the present company taking the mine, some working men had it, and raised upwards of 1000 tons in 20 years.

# DERBYSHIRE.

The mines paying dividends—that is to say, such as are publicly known, for in noticing those counties where mining is not so generally carried on as in Cornwall and Devon, and to which latter counties this Review is meant more particularly to refer—I have to deal more in general returns than to particular mines. **PEAK UNITED** has paid 512s., and **EXAM** 1200s., this year. The lead returns for 1854, for the county, were 7554 tons of ore, yielding 4508 tons of lead.

# SHROPSHIRE.

Mining here, so far as London companies have been concerned, has not been very successful during the year. The county returned, in 1854, 3797 tons of lead ore, being rather more than the previous year. Of this quantity, one mine, the **SWALE BRANCH**, yielded 2125 tons; **WHITE GRAY** 800 tons; **HOPE VALLEY**, 258 tons.

# YORKSHIRE.

Yields large quantities of lead, but the mines belong to local parties. The returns for 1854 were 9244 tons, against 10,308 tons of the previous year. The **SWALE**, **DALE**, and **ARKENDALE**, out of this quantity yielded 4817 tons; **GRASSINGTON**, 1800.

# NORTH STAFFORDSHIRE.

**MIXON GREAT CONSOLS** has not made such progress this year as was expected; its prospects, however, we are informed, are good. There is a rich lode, from 4 to 6 ft. wide, in the underlie shaft, sinking below the 73 fm. level, and the opinion of competent agents in the neighbourhood is that important results may be expected as this shaft goes deeper. Copper ores, realising 710s. 7s. 6d., have been sold during the year, and the mine is a parcel now ready for sampling.

**STRAUDALE** is a new trial, adjoining Mixon. An adit is now being driven, and it is said a lead lode has been intersected.

**ROYLEDGE**, about two miles distant from the above, has recently been set to work again, and is reported to have a parcel of ores at grass.

The **DALE LEAD MINE** is being worked by a private company; it is near the famous Ecton Mine. The first sampling of lead ore will take place early in January.

# DURHAM AND NORTHUMBERLAND, &c.

The mines here are chiefly private property; and among them East and West Allendale and Wearside sold lead ores in 1854 to the extent of 12,220 tons, yielding 9200 tons of lead and 49,000 ozs. of silver, against 11,916 tons of ore, 9904 tons of lead, and 50,700 ozs. of silver in the previous year, from which it would appear the ores of 1853 were much the richer for lead as well as silver. Little Egglestone, 2861 tons of ore, and 211 tons of lead; Wiregill, 1207 tons of ore, and 895 tons of lead; the **Durham Mines**, 1000 tons of ore, 800 tons of lead, and 15,000 ozs. of silver. The mines show a falling off as compared with the previous return of 330 tons of ore, 200 tons of lead, and 1600 ozs. of silver. Total return of the counties, 22,329 tons of ore, 16,669 tons of lead, and 78,577 ozs. of silver.

# ISLE OF MAN.

The **FOXDALE MINES** have paid 8960s. this year in dividends, and **LAXEY** 1000s. The returns of lead for 1854 were—Foxdale, 1900 tons of ore, yielding 1449 tons of lead, and 19,926 ozs. of silver; Laxey, 900 tons of ore, 688 tons of lead, and 22,326 ozs. of silver—the latter mine showing a produce of nearly 36 ozs. of silver to the ton of ores.

# IRELAND.

The lead returns for Ireland last made up show a total of 2800 tons of ores, 2137 lead, and 62,262 ozs. of silver, against 3309 tons of ores, 2412 lead, and 17,664 ozs. of silver in the previous year. The largest producing mines are Newtonards, in Down, 1379 tons; Laganure, in Wick, 1095 tons. The copper returns for 1854 were 11,739 tons of ore, producing 1124 tons of copper, and yielding in money 128,053s. 9s. 6d. Of this quantity the **Berehaven Mines** returned 5930 tons, 53,348s.; **Kearney**



(good results), I have heard these men most undervalue, blamed, in the most unmeasured terms, for having misled, &c." *are undervalued*  
As a sequence to these remarks, let me add that the bout of mines are "speculations," and those who embark in them, either for large dividends or large profits, should not be disappointed if *all* do not turn out as they could wish. Fifteen or twenty per cent. cannot be had for money without some risk, though, from the publicity now given to the accounts and reports of mines, that risk may be nicely calculated; and I have endeavoured, in the preceding Review, to assist the capitalist in doing it. In regard to progressive mines, there are many well worth attention; and I would add, as I did in my Review of 1852, "Never confine your speculations to one mine. It is impossible, however well recommended, however well managed, and however good the prospects may appear, that *all mines can pay*: invest, therefore, in a *well-selected few*. The division of risk diminishes the effects of a partial loss, and almost insures success in the aggregate."—1, St. Michael's-alley, Cornhill, Dec. 29, 1855.

## CONDENSED MINING REPORTS.

From North Lant Mine, Captain W. C. Vivian (Dec. 26) reports—  
Geev Lode: In the 30 m. level, west of the engine-shaft, the lode is improving—now worth 41 per fathom. In the 20 m. level east the lode is large, and producing a little tin, but improving in this direction. In the 20 fathoms level east the lode is worth 100 per fathom. In the 10 m. level, the lode is improving, and showing a promising appearance than for some time past. Borlase's Lode: The stopes east and west of Borlase's shaft, in the bottom of the middle adit, are worth about 200 per fathom. We have recommenced driving a deep adit, with a view of getting under the tin and copper ore, and reaching the middle adit. The lode in the middle adit, at the bottom of the mine are altogether more promising at present than they have been for some time.

[For continuation of Mining Reports, see page 848.]

## FOREIGN MINES.

However, owing to the directors being unable to bring over the whole of the produce (out of which this balance arises) during this year. A large supply of coal has been dispatched, and in a few months all the stocks of ore will be smelted, and a shipment of about 150 tons of fine copper will be made. The assets of the company, on the 31st of March last, in cash, goods, and ores at the smelting-house, were valued at 13,346*l.* 10*s.* 1*d.*, independent of mines, smelting-works, and buildings, all of which are in good condition. The mines, during the past seven months, have rather improved. Several exploratory workings have been judiciously carried on for some time, with the view of opening ore ground

GOLD MINING IN ENGLAND.

## GOLD MINING IN ENGLAND.

### CONCLUSION.

In the third edition of Mr. Murchison's *British Mines, considered as a Means of Investment*, some remarks are made which I consider extremely pertinent at the present time, and I cannot do better than refer to them in this place. Speaking of the "indiscriminate and unjust manner in which mining, and every one connected with it, are condemned, by persons who are either ignorant of the circumstances on which they blindly pass judgment, or who do not reflect for a moment on the effect of their remarks," Mr. Murchison calls attention to the disgraceful proceedings among bankers and merchants which have of late been frequently before the public, and asks, "Why should all mining be depreciated for the errors and faults of some, while banking and commerce should remain unscathed by any amount of roguery and deception?" "The total sum of which three firms, lately before the public, have defrauded their clients, would," Mr. Murchison says, "be sufficient to develop at least a hundred mines; but if a dozen people lose a few hundred pounds each by a mine (and it is immaterial whether they do so fairly or unfairly), they at once stamp the whole business as a deception." "There are, no doubt, many bankers and merchants who would be very indignant, and would feel severely the injustice, if the whole of their class were to be regarded with continual suspicion, and if banking and commercial pursuits were to be looked upon as only other terms for everything that is bad. Such is the view, however, which many take of mining." Although, as he goes on to say, "There are among those connected with this most important branch of national industry as large a proportion of honourable and respectable men as there are among bankers and merchants, or any other class, there is far too great a disposition to look at every proceeding in mining with suspicion, and to utter unscrupulous remarks upon every point that may arise, rashly attributing the most unworthy motives in every case where the results do not quite correspond with the expectations at first entertained. I have known men of the highest honour, and of great practical ability, pressed for their opinions upon the prospects of a mine, and who have given their views unreservedly, according to their conscientious belief, founded upon the appearances at the time; but, when unforeseen changes have taken place in the character of the lode and strata, or other circumstances may have occurred (which, perhaps, only delayed the anticipated



## The Mining Market, Prices of Metals, Ores, &amp;c.

METAL MARKET, London, Dec. 28, 1885.

COPPER.		£. s. d.
Sheathing and bolts . . . p. lb.	9 1 3	
Old (Kachang) . . . . .	0 1 3	
Best selected . . . . .	0 1 6	
Tough cake . . . . .	126 0 0	
Tile . . . . .	126 0 0	
South American . . . . .	112 0 0	
IRON.		per Ton.
Bars, Welsh, in London . . .	9 0 0-9 3 0	
Ditto, to arrive . . . . .	8 17 6-9 0 0	
Nail rods . . . . .	10 0 0-10 10 0	
St. Stafford, in London . . .	10 10 0-11 0 0	
Bars, ditto . . . . .	10 0 0-11 0 0	
Hoops, ditto . . . . .	10 0 0-12 0 0	
Sheets, single . . . . .	11 0 0-13 0 0	
Pig, No. 1, in Wales . . . . .	5 0 0-5 5 0	
Refined metal, ditto . . . . .	— — — — —	
Bars, common, ditto . . . . .	8 0 0-8 5 0	
Ditto, railway, ditto . . . . .	8 0 0-8 5 0	
Ditto, steel, in London . . . . .	14 0 0-18 0 0	
Pig, No. 1, in Clyde . . . . .	3 16 0-3 16 6	
LEAD.		per Ton.
English Pig . . . . .	25 10 0-26 0 0	
Ditto, in fagots . . . . .	26 10 0-26 10 0	
Ditto red lead . . . . .	26 10 0-27 10 0	
Ditto white . . . . .	27 10 0-28 0 0	
Ditto patent shot . . . . .	27 0 0-27 10 0	
Spanish, in bond . . . . .	24 10 0-24 10 0	
American . . . . .	none.	
FOREIGN STEEL.		per Ton.
Swedish, in kegs . . . . .	19 0 0-19 10 0	
Ditto, in fagots . . . . .	21 0 0-21 10 0	
English, Spring . . . . .	18 0 0-18 0 0	
Bars (sheets) . . . . .	12 1/2 d.	
Wire . . . . .	11 1/2 d.	

\* At the works, 1s. to 1s. 6d. per box less.  
 † Thirty days credit, and free on board at Rotterdam. The per centage of peroxide is about 60 for Nassau lump, 60 to 64 for Giesens, and 70 and 73 for ground.

REMARKS.—In consequence of the holidays, very little worthy of notice has occurred in our Metal Market during the past week, and prices have not materially varied.

COPPER.—This metal remains as firm as ever, and there appears little chance of a reduction at present.

IRON.—Manufactured iron of all kinds continues firm, and prices have an upward tendency. Contracts to some extent, for spring delivery, have been entered into, but there is, of course, an anxiety felt with regard to the result of the quarterly meetings. From the feeling expressed at Dudley, on Thursday, it is fully expected that the prices will be—Bars, 9s. 9d.; hoops, 10s.; sheets, 11s. per ton. Scotch pigs have been very quiet, and prices have rather favoured buyers. The stocks in Glasgow are considerably larger than has hitherto been supposed. The closing price for mixed numbers, f.o.b. in Glasgow was 7s. 6d. to 7s. 8d., and, although the amount of business done at these prices has not been large, no reduction is anticipated.

LEAD.—A few parcels have been done at a trifle lower than heretofore, but the market is very quiet, and there are many holders who refuse to operate at a decline.

SPELTER.—This metal continues without alteration.

TIN.—At the meeting of smelters, held on Wednesday, the prices of blocks and bars were advanced 4s., and refined 6s., per ton; and a good enquiry continues at these increased rates.

TIN-PLATES have advanced, but the improvement in price has had no influence on the demand.

STEEL AND QUICKSILVER, as last reported.

LIVERPOOL, DEC. 27.—As is usual at this season of the year, business is limited as much as possible, and the market during the past week has been bare of transactions of moment. Scotch Pig-iron has been sparingly operated in at 7s. 6d. f.o.b. in Glasgow, for mixed numbers, warrants; at this figure there appears to be a pause, without the prospect of any material reduction, whilst iron at or about this price, three months open, would find buyers. The shipments for the past week from Glasgow are 7439 tons, against 6415 tons in the corresponding week of last year, being an increase of 1024 tons. Manufactured iron of all kinds maintains its firm appearance, and prices tend upwards. Contracts to some extent have been made for forward delivery, and this branch of the trade is in a very healthy position. In English Tin a further advance was announced yesterday of 4s. per ton on common, and 6s. per ton on refined. Tin-plates, consequently, have advanced in price, and parcels offered find ready buyers; in this article the demand just now is considerable, and manufacturers, being well supplied with orders, are indifferent about entering into fresh engagements, unless at the highest prices. Copper firmly holds its price, although the demand has somewhat slackened. Lead is lower, and remains quiet. In other metals we have nothing to report. The following are the quotations:—Iron: Merchant bar, 8s. 12s. 6d. to 9s.; Tin: Common block, 129s. per cwt.; common bar, 130s.; refined block, 135s.; Tin-plates: Sheet, 25s. per ton; pig, 24s. 10s.—Zinc (sheet), 31s. per ton.—Copper: Bolt and sheathing, 1s. 2d. per lb.; tile and tough cake, 12s. 6d. per ton; best selected ditto, 12s. 9d.—Yellow metal sheathing, 1s. per lb.—Steel: Swedish keg, 19s. to 19s. 10s. per ton; fagot, 20s. 10s. to 21s. per ton.

GLASGOW, DEC. 27.—Our market has remained very quiet this week, and prices have turned rather in favour of buyers. Attention is occupied by the stocks, which are now expected to be considerably larger than has hitherto been supposed. To-day the price is easier, the market closing with sellers at 7s. 6d., buyers at 7s. 8d. At 7s. 6d. a little business is reported. No. 1, Gartsherrie, 80s.; No. 1, g.m.b., 78s.; No. 3, g.m.b., 73s. 6d. Shipments for the week ending Dec. 22:—Foreign, 1968 tons; coastwise, 5471 tons=7439 tons. In the corresponding week of 1884 they were:—Foreign, 2061 tons; coastwise, 4354=6415 tons.

MINES.—The Christmas holidays have interrupted business this week; and the transactions in mining shares have not been extensive. Glamorgan and St. Aubyn shares have further advanced from 42 to 60, 65, and in good demand. The mine has considerably improved, and from the number of productive lodes, and the near approach of the junction of two of them at the 36, the mine may before long take an important position. We have on several occasions called attention to the steady and progressive improvements going on in the different levels. The 12 east, on Williams's lode, is worth 25s. per fm.; the winze sinking below the adit, in advance of the 12, is worth 30s. per fathom. North Basset has improved, but the shares have been flatter, owing, it is said, to speculations for the "account," and we might here offer an illustration of our remarks a fortnight since, upon the injurious tendency of these "accounts" towards the bona fide speculator and legitimate shareholders. Suppose (for, of course, we merely deal in suppositions) a number of shares were purchased for the "account"—that is, for payment at the end of the month—at 43s., being a fair market price, and when the time came the buyers were unable to pay cash, and had either the shares forced for sale against them, or had to pay a centango—that is, pay 5s. per share for the seller to carry them over to the next account, and which the latter would do by the buyer bringing the price down to 40s., this process being done by his handing over 3s. per share and the centango, and they are then, as it were, at 40s. for the account in January. And supposing such a price, given in such a way, to be quoted or talked of, the mine, in the face of great improvements, would become depreciated in market value 3s. per share, or 18,000s., to suit jobbing speculators. We put this as a case, merely to exemplify a system which should be condemned by one and all. Rosewarne is improving in the bottom levels; shares, 132s. to 133s.; Hender is looking better on the north and middle lodes, yet shares continue flat; East Rose have risen to 70, 80; Cupid, 13s.; Alfreds very flat, at 18; Trevelyan, 3s. to 3s. 2d.; West Alfred, 2s. to 2s. 6d.; Great Alfreds rather firmer; North Robert, 2s. 6d.; West Basset, 3s.; Devon Buller, 2s. At Great Sheba, the quality and quantity of the ore improves in depth; the 50 and 60 are in course of opening; the lode in the 40 is 30 feet wide. South Tolgus, 11s. Many reports having been circulated in regard to South Garris colliery, and the debts owing, we find on reference to the official statement that the total liabilities not included in the accounts presented at the last meeting were 2639s., whilst 6000s. worth of lead was raised and on surface, ready for crushing.

The following is the Mining Exchange Official List of transactions during the week:—

SATURDAY, DEC. 22.—Bedford United, 11; Cliffland and Wentworth, 17; Devon Buller,

3s. 2d.; Great Alfred, 13s. 14, 14; Ivybridge, 2s. to 3s.; Lady Bertha, 2s. to 2s. 6d.; Nanticoke, 17s. 6d. to 20s.; North Basset, 41s. 42s. 43; Par Consols, 18s. 19s.; Rosewarne United, 13s. 14s. 15s. 16s. 17s. 18s. 19s. 20s. 21s. 22s. 23s. 24s. 25s. 26s. 27s. 28s. 29s. 30s. 31s. 32s. 33s. 34s. 35s. 36s. 37s. 38s. 39s. 40s. 41s. 42s. 43s. 44s. 45s. 46s. 47s. 48s. 49s. 50s. 51s. 52s. 53s. 54s. 55s. 56s. 57s. 58s. 59s. 60s. 61s. 62s. 63s. 64s. 65s. 66s. 67s. 68s. 69s. 70s. 71s. 72s. 73s. 74s. 75s. 76s. 77s. 78s. 79s. 80s. 81s. 82s. 83s. 84s. 85s. 86s. 87s. 88s. 89s. 90s. 91s. 92s. 93s. 94s. 95s. 96s. 97s. 98s. 99s. 100s. 101s. 102s. 103s. 104s. 105s. 106s. 107s. 108s. 109s. 110s. 111s. 112s. 113s. 114s. 115s. 116s. 117s. 118s. 119s. 120s. 121s. 122s. 123s. 124s. 125s. 126s. 127s. 128s. 129s. 130s. 131s. 132s. 133s. 134s. 135s. 136s. 137s. 138s. 139s. 140s. 141s. 142s. 143s. 144s. 145s. 146s. 147s. 148s. 149s. 150s. 151s. 152s. 153s. 154s. 155s. 156s. 157s. 158s. 159s. 160s. 161s. 162s. 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849	2379	6%	10,773	16	0	110	17	0	69	0	84	0	
850	2398	6%	10,732	16	0	110	17	0	68	3	84	0	
851	2902	6%	9,470	16	0	107	18	0	68	3	88	10	
852	3867	5%	18,387	10	6	145	19	0	97	1	102	10	
853	2959	6%	10,429	3	6	132	14	0	107	14	0	126	0
854	3780	5%	21,642	6	6	142	17	0	96	12	0	128	0

The copper in the ore expresses the net price per ton of copper paid to the miner.



We had almost forgotten to state that any of the documents collected in the Mexico Brook Office can be consulted by any one upon making

an application to Mr. ROBERT HUNT, and expressing that gentleman, who has charge of this office, that information is required for some especial practical purpose. The importance of time to gentlemen so fully engaged as are the Keeper of Mining Records and his assistants, renders it necessary that they should not be subject to the intrusion of those who have no object beyond the satisfaction of idle curiosity. We would strongly urge the necessity of preparing a descriptive catalogue of this valuable collection of Mining Records.

We shall return again to this subject, and from time to time endeavour to examine in detail the several divisions which we have named in a former article. We are prepared to show that, both as relates to our coal mine and to those producing the metalliferous ores, the public have nothing to guide them in their speculations, unless they secure a system of MINING RECORDS and of MINERAL STATISTICS upon which perfect reliance can be placed. Without these to guide them, Government and our legislators may, with intentions of the most upright character, and with the sincerest desires to give an advantage to our mining and metalliferous industries, be inflicting a destroying wound on these and other commercial interests—diseasing, indeed, one of the vital sources of national prosperity.

**THE IRON AND METAL TRADES OF SOUTH STAFFORDSHIRE.**

[FROM OUR CORRESPONDENT IN BIRMINGHAM.]

Dec. 27.—The preliminary meeting of the iron and coalmasters held to day, at the hotel, Dudley, is the main feature of the trade this week, and although it does not reveal more than has already appeared, nor effect any alteration, it is, nevertheless, of considerable importance, as tending to remove all doubt upon a point upon which some parties seemed disposed to raise one. I allude to the question of price. That was settled to-day; and as I ventured to say in my former notice, it would be by a resolution declaratory of the inexpediency of any alteration of the quotations of last quarter—namely, 3*l.* for bars, 1*0*l.** for hoops, and 11*l.* per ton for sheets. Notwithstanding the unfavourable state of the weather, the meeting was well attended, and the proceedings were of a most satisfactory nature. It was, however, not the expediency of anything in the shape of a reduction being acceded to, if any should be proposed. Of this, however, nothing was to be apprehended, the tendency amongst the leading houses evidently being to advance; but this was also deemed neither practicable nor prudent, and it was wisely resolved not to make any change. The demand for pig-iron is brisk, and 1*1*l.** 1*0*s.** paid without hesitation. The market for cast-iron is also some what brisk on the basis, and everything seems to indicate a satisfactory termination to one of the most eventful years we have had of late in connection with the iron trade of South Staffordshire. For many who commenced the year with large prospects, based on fallacious grounds, it has certainly been an unfortunate period. It is not too much, perhaps, to say that 1,000,000*l.* worth of property has changed hands, under circumstances involving serious consequences to the community. The market for iron is, however, not so gloomy as the prospect of a reckless speculation, which

LONDON, DECEMBER 29, 1855.

can never fall to this level. The turn over, however, has not been without some benefit. It has broken up a hollow, rotten system of traffic, which metalurgists have been attended with misery to those engaged in it, and prove a drawback upon prices, because of the necessity to sell at any sacrifice. Another, and much more important result, however, followed the di-asters. It well nigh exhibited all that was "rotten in the state of Denmark," and showed, by the manner in which the bank now heavily involved by the failures was upheld, and placed upon a firmer basis than ever, that there was in the district an immense amount of *bona fide* capital, superior to any possible emergency that could befall the real owners of the property. It might be thought that the possession of it could have induced such a speedy restoration of that confidence with which the year now so happily terminates. All things, therefore, considered, those engaged in mining operations in South Staffordshire have much cause for congratulation at the close of the present quarter, and I believe the resources of the northern part of the county have been developed during the past year to an extent unprecedented, and which furnishes the fortunate holders of mining property in that part of the district with ample hopes for the result of the new year's operations. Certainly, for those engaged in the coal trade throughout the entire county it has been, comparatively, a prosperous year. During the entire of the twelve months the demand has been good, and at a high price. The market has been, of course, only, and not so remunerative, and I believe there are not now the books abundant orders, sufficient to carry us over the best part of the new quarter. The difference which at one time occurred between the masters and men was speedily and satisfactorily arranged, and the conduct of the men, on the whole, throughout that affair proved that the efforts of the schoolmaster amongst them have not been altogether lost. They had the sagacity to avoid the miseries of a long, useless strike, and maintained that good understanding with the masters so essential for their own comfort and happiness. Nor have they evinced less sound judgment and discretion in rejecting the overtures of the Chartists, who sought, under the plea of dear bread, to lead them back into the turmoil and dangers of the old, and not the new, system of agitation. On the third of last Sunday, to consider the cause of the little loaf, and they gave a few pence to send a couple of the leaders to London, to ask the Queen to reduce the price of the loaf, but that was the extent of their fury. The loaf dropped a penny in price, and with it the agitation. All are now perfectly in order—a terrible *fracas* amongst the leaders, as usual, about money matters having brought the farce to a close.

Relative to the General Trade of this town and neighbourhood, there is nothing to report. Between merrymaking and stocktaking, the shops and works have been nearly all closed during the week, and there has been all an entire suspension of trade. Rumours, however, of good orders for the new year have already found their way amongst the people, and have contributed not a little to the general gaiety which prevails all around us.

To-morrow, an important work will be commenced in this district, and to which I have heretofore directed your attention. I allude to the new canal and tunnel, and other works of considerable magnitude, about to be carried on by the Birmingham Canal Proprietors. During the last session, an Act of Parliament was obtained, authorising the above works; and to-morrow, Lord Ward will cut the first sod of the new canal and tunnel in a field at Oakum, adjoining the turnpike-road leading from The Den to Rotton. It will be attended by about 100 of the principal iron-

masters of the district all of whom feel deeply interested in the completion of the work, and at whose urgent request the Canal Company were induced to go to Parliament for their bill. It is calculated that the new canal and tunnel will open an immense mining country, hitherto comparatively sealed up for want of means of transit. The canal to be commenced to-morrow will take its start in the parish of Rowley Regis, Staffordshire, by a junction with the present canal of the company on the right bank of the Trent, and will follow the course of the parish of Dudley, Worcestershire, by a junction with the Netherton Branch Canal of the company at or near Cookey Bridge, near Bumble Hole tollgate. The tunnel will be a double one, and it is estimated that, when completed, the advantage to Birmingham alone will not be less than a permanent reduction of from 1s. to 1s. 6d. per ton upon coal for many years to come. The undertaking was vigorously opposed by Lord Ward, and his lordship has kindly consented to inaugurate the work to-morrow. After the ceremony, the event will be celebrated by a dinner at the Dudley Hotel, at which, no doubt, the principal gentlemen of the district will be present.

Mr. Ebenezer Holl of Birmingham, has during the past week specified his patent (through Mr. Geo. Shaw) for improvements in securing ramrods to firearms. This invention consists in the use of a spring, carrying a roller at its end, for securing the ramrods of firearms, when not in use, in their usual place in the stock. The spring and roller are so placed in the stock of the firearm that, when the ramrod is withdrawn from the stock, the roller is caused to be raised by its spring upon the ramrod, thereby securely retaining it in its place, the ramrod being at the same time readily removed and replaced. When the ramrod is introduced into the stock, its end comes in contact with the roller, and the ramrod must be pressed and made to force back the roller and spring before the end of the ramrod can pass the roller, and assume its customary place in the stock. The spring carrying the roller is fixed in its place in the stock by a pin passed over the fixed end of the spring, and the end of the spring is attached to the end of the ramrod. When the ramrod is in the stock, on the one hand, and the "clicking" of the same by the swelling of the wood, on the other hand, are entirely obviated, the ramrod being at the same time readily withdrawn from, and introduced into, the stock of the firearm.

IRON AND COAL TRADES OF YORKSHIRE AND DERBYSHIRE.

[FROM OUR CORRESPONDENT IN CHESTERFIELD.]

Dec. 27.—Although the present period is generally considered a dull season of the year, there is ample proof of the satisfactory condition of the trade of this district, notwithstanding the high rate of interest. There is not the usual amount of anxiety manifested at the present time as to the determination of the ironmasters, at the preliminary meeting held this day, from the prevalence of a belief that the aspect of affairs will not warrant any alteration in prices. The reasons urged against any alteration are—the high rate of interest, and the fear of creating an agitation amongst the farmers for an advance of wages. We believe prices will be declared as follows:—Gunmen 9½; hoops, 10½; and sheets, 11½ per ton. A considerable degree of uneasiness is being occasioned by the suspension of shipments, but the enquiry for manufactured goods is not so much affected. Particularly the case in Yorkshire, where several large houses having heavy contracts on hand. The Low Moor Company continue to be extensively employed in the manufacture of munitions of war, for which they are earning a wide reputation, especially for their mortar-shells, large quantities of which have been made during several months past. This company have just sustained a loss by the delinquencies of their Sheffield agent, Mr. F. W. Parker, formerly manager for Messrs. Daves, of the Milton Iron Works. Mr. Parker, up to the last week, had enjoyed the fullest confidence of his employers; and was apprehended in Liverpool, on Friday night last, by a detective officer. On Tuesday week, Mr. J. W. Wilkinson, the chief agent of the company, caused an investigation of Mr. Parker's accounts, when he was found to be between 400l. and 500l. deficient. Mr. Parker's

income from the company averaged 450s. per year, and little underselling. The Iron Trade is somewhat less profitable, and the stocks of iron being sold in America, by the *Atlantic*, are very favourable, the stocks of iron being lower, and probabilities of a large cotton crop affording ground for anticipating a good trade with the States for the ensuing spring. The pig-iron market is being proved, and good hot-blast main pigs are quoted at 4l. 10s. At present the market is very extensively employed in line of wood for the construction of buildings. Mr. Barrow, of Sturges, is now tripping to the West Indies, to negotiate for the purchase of contracts, one of which is for several large gas-works at Donfield, Derbyshire, will require a large quantity of socket-pipes. The Coal Trade is in a very prosperous state, but the prices realised at the pits are equal to some former seasons, when, owing to the scarcity of supply, the market was but thinly stocked. During the present year, the demand for coal has been made in the production of iron in the counties of Derbyshire and South Yorkshire, and the supply of coal has been nearly doubled in extent. This week, the Wharfedale Colliery Company



### CONDENSED MINING REPORTS.

From **Deebley United Mines, Capt. J. Phillips** reports that the lode in the 130 east is 2 feet wide, yielding from 1 to 2 tons of ore per fathom; the 113 fathons level west is 3 feet wide, yielding 4 to 5 tons per fathom, and the stops in back of same level south 3 tons per fathom.

From **Bronfley, Captain Jones** writes—**Engine-shaft:** The lode in the shaft still contains good ore, the richest being on the south-west side, but impracticable on the north. We have not seen either wall of the lode, but I fully expect to have a large body of ore when we gain the south wall.

From **Bryndol Hall Mine, Captain W. Francis** (Dec. 27) reports—We have a fair quantity of ore in the pit, which we are working with four men. We shall have 20 tons prepared for next sale.

From **Camborne Consols, Capt. W. Roberts** reports the lode in the 20 west as 1½ ft. wide, producing good stones of ore.

From **Cubert Union, Capt. J. Trewen** reports—The lode at Trebrellan is 2½ ft. wide, worth 12 cwt. of lead per fm., with an improving appearance. The lode in the 66 end north is 2½ ft. wide, worth 7 cwt. of lead per fm. The stops in the back of this level are worth 4 cwt. per fm. The stops south of the shaft, in the back of this level, are worth 5 cwt. per fm. The stops in the back of the 66 are worth 9 cwt. of lead per fm. The lode in the 36 end is worth 4 cwt. per fm.

[FROM OUR CORRESPONDENT IN DUBLIN.]

From Cao-Cyn Mine, Capt. E. Stedman reports that the stopes over the 20, west of engine-shaft, show signs of a course of ore a few fathoms westward, as the lode seems to have been divided by bunches, but inclines again in that direction.

From Eagar Mwyn, Capts. S. Vial and J. Paull report that in the stopes in the back of the 25, east of Morris's rise, the lode is rather poor, producing about 8 cwt. per fm. In the stopes in the bottom of the 20, south of Morris's winch, the lode is producing 10 cwt. per fm., in the northern stopes, back of same level, the lode is worth 12 cwt. per fm. In the rise on north lode, above the adit, the lode is producing 8 cwt. per fm.

From East Frongoch Mine, Capt. Thomas Pascoe reports the partial cessation of operations, in consequence of severity of weather. After having the water in fork they could only work two days, when the frost stopped the wheel, which was not again at work until Monday, when favourable progress was made. The water was 3 ft. below the 20, and unless some unforeseen event has since intervened, will again be in fork to the 20, when the stamping operations resumed.

From Great Northdown, Capt. John Rogers reports that the lode in the 31 is 31 tons per fm. The lode in the stopes below the 46 is worth 30¢ per fm., but very hard. They intend sampling in the early part of next week from 30 to 40 tons of lead ore.

From Leeds Town Consols, Capt. P. Pascoe hopes to sell the tin which was already stamped when the stamping engine was stopped.

From Nether Hearth, Capt. W. Jeffrey reports,—"In driving the drift forehead west, we have again met with a large vein—size at present not known, composed of iron, quartz, and a little blende, for lead ore 1 ton per fm. The west drift, in the flat, is worth for lead 2½ tons per fm.; in the slope, below the working, is worth 3 tons per fm.; the stopes over the drift, and not so good as last reported, may be worth for flat in very much improved, worth 1½ ton per fm.

At the new trial there is a very great improvement. I cannot tell the time when I have seen so kindly a vein, it is about 6 ft. wide, and ore throughout.

Sir,—In the year 1834 an Act of Parliament was obtained by a company, under the

At Great Shelf Consols, a great improvement, both in quality and quantity, has taken place. The ore at the last sampling at Truro stood third on the list, with some which sold for 6s. 19s. per ton, and amounted to 273 tons, which, with the carriage, fetched 882*l.* 14*s.* 3*d.*; this ore is taken from above the 40 fm. level. The 50 and 60 are in course of opening, and it is expected when these and deeper levels are opened the mine will give very large and permanent dividends. The lode is 30 ft. wide, and supposed to be the Devon Consol.

From Great Wheal Vryn, Capts. M. W. Martyn and Wm. Teague report that, driving east on the top part of the old lode, over the 106, the lode is 70 ft. wide, and has participated to be entire for a great distance, above and below, east of the cross-course; and if it continues as it now is, will be a most valuable discovery. At Wheal Metal, in No. 1 engine-shaft, the lode is still about 70*ft.* per fm. No. 42, the stope west of shaft, in back of this level, worth 65*ft.* per fm. The favourable position of all the underground openings is, on the whole, fully maintained.

From Herward United, Capt. Lightholler reports—Henclass workings are now fairly opened and ventilated. We have two acts of tributaries working, and hope shortly to set other pitches.

From Holmbush Mines, Capt. N. Seecombe reports that the 145 act continues to produce 2 tons of ore per fm. At the diagonal shaft, the ground is favourable for sinking, and good progress is being made.

From Kelly Bray Mine, Capts. S. James and W. Watson report that they are making good progress in driving the 103, which is producing, east and west, stones of ore. The lode in the 90 act is 1 ft. wide, yielding stones of ore, and in the west, 3 ft. wide, the latter worth 15*ft.* per ton. In the 80 west, the lode in the mine is worth 3*ft.* wide, the latter worth 15*ft.* per ton. In the east of same level is worth 30*ft.* per fm. They will sample on the 23*th* inst. 310 tons of copper ore.

From Lydford Consols, Capt. Joseph Richards reports that the lode in Ward's mine sinking below the adit level is large, full 4 ft. wide, composed of foolcan, quartz, and good spots of lead ore.

At North Basset, Capt. T. Glanville reports the lode in the 62 will yield 9 tons per fm.; in the wine sinking below the lode will produce 8 tons per fm.

From North Downs Mine, Capt. J. Prince reports the lode in the rise of the 12, east of Michael's shaft, as 2*ft.* feet wide, and looking better. In the wine sinking below the adit the lode is 18 in. wide, spotted with copper and blende, and

[FROM OUR PARIS CORRESPONDENT.]

67, per fm. Notwithstanding the unfavourable state of the weather, the masons have raised the bob-wall of the engine-house to its height, and the corresponding parts, to the engineers and agents' satisfaction.

From North Wheel Robert, Capt. A. Pryor reports that the lode in the 42 west continues to yield 1 ton of ore per fm. The stoeps in the back will produce about 3 tons per fm. The present stoep will give 4 tons of good quality ore per fathom. At the present sinking, the prospects are promising favourably.

From Peden-andrea United Mines, Capts. J. Delbridge and J. Carpenter report that the 68 east, on Martin's lode, is 3½ feet wide, worth 39f. per fathom for tin—set to stoep by four men, at 5f. 10s. per fathom. The 69 west, on the same lode, is 3 feet wide, worth 80f. to 90f. per fathom for tin—set to drive by six men, at 20f. per fathom. The rise west of the engine-shaft, about 19 fms. on Martin's lode, is yielding good work for tin, and bids fair to produce a large amount of tinstuff—set to drive by four men, to go through the lode, at 10f. per fathom. The 70 west, on the same lode, is 4 feet wide, worth 100f. per fathom for tin—set to drive by six men, at 17f. per fathom. The lode in the 68 east of the cross-cut, on the same lode, is 2 feet wide, worth 22f. per fathom for tin—set to drive by six men, at 18f. per fathom. The surface works are being pushed on with dispatch.

From Pembroke and East Crinnis, Captains J. Dale and G. T. Twrewn report the satisfactory progress in the sinking of Reid's engine and whim-shafts, as also Smith's shaft. The men are busily engaged in clearing the level east of Wheel Unity shaft, and the lode in the present end is from 8 to 10 feet wide, spotted with ore, and carrying a little of the producing copper ore, much tin. The tin is in the back of the ore producing copper ore, and the tributaries are getting good wages.

In the 122 and 131 the strata indicate probable improvements at a deeper level.

From Pendene Consols, Capts. Jas. Evans and Wm. Eddy reported that the lode in the 39, driving north, is from 3 to 4 ft. wide, composed chiefly of munde, with spots of copper ore scattered throughout; it is of a very promising character. A store of ore from this level can be seen at Mr. Hawden's office, 2 Bank-chamber,

SIR,—On reading your Journal of last week, I find we have a new candidate

At Perran Wheal George, Capt. R. Davies has no particular alteration to notice. The lode shows indications of improvement, and still produces excellent stone.

At Prince Albert Consols, Capt. R. Davies reports they have driven the cross-cut about 8 fms.

From Round Hill Mine, Capt. John Kneebone (Dec. 26) reports—The lode in the 30 ft. level, driving south of the new engine-shaft, is 4 ft. wide, and will yield about 2 tons of lead ore per fm. The lode in the 20 fm. level, driving south of the new engine-shaft, is 18 inches wide, producing a little lead ore, but not sufficient to value.

At Severn Mines, Capt. John Reynolds reports that the eastern slope, in the deep adit is producing rich copper ore, worth 8s. per fm. The western slope, in the same adit, is worth 4s. per fathom.

SIR,—As you have given place in your columns to Mr. Cobbett's letter to me,

From Sortric Consols, Capt. Metherell (Dec. 27) reports: "The 30 ft. level end east is as last reported, with 7 tons per fath. The pitches are as good as ever. Our grinder was put to work last Saturday, which answers well. All other things are progressing to our satisfaction."

From South Cravner Mine, Capts. J. Delbridge and E. Chagwin report: "That in the 80 ft. level, west of flat-rod shaft, the lode is  $1\frac{1}{2}$  foot wide, yielding 1 ton of ore per fathom, and having a kindly appearance. In the 7 ft. level, east of Gore's shaft, the lode is  $1\frac{1}{2}$  foot wide, yielding  $1\frac{1}{2}$  ton per fathom. The east is now in the granite country, and improves in appearance. In the 5 ft. level, east of Gore's shaft, the lode is from  $1\frac{1}{2}$  to 2 feet wide, with 1 ton of ore per fathom. The lode in the winze sinking below the 5 ft. level, east of Gore's shaft, is  $2\frac{1}{2}$  feet wide, yielding from  $1\frac{1}{2}$  to 2 tons of good ore. This lode being over the point in the 6 ft. level, from which good product was obtained, is likely to yield a large amount of ore. The 4 ft. level, west of flat-rod shaft, is as last reported."

able sum was, if I am rightly informed, realised by the transfer of the lease. It is

From South Bedford Consols, Captain James Phillips, jun., reports that the lode is in the 49 fathom level, west of Red Whim shaft, is 2 ft. wide, worth from 2 tons to 3 tons of ore per fathom.

From South Carn Brea Capt. T. Glanville reports they have bored in the bottom of the engine-shaft to within 2 feet of deep adit, and hope to make the communication on Monday.

From South Wheel Tolgus, the agent (Dec. 22) writes:—No lode has been taken down in Michell's engine-shaft since last reported. The ground in the cross-cut driving north from the south lode, towards Youren's lode, west from Michell's, is still barren and sparse driving. The lode in the 30, east from Michell's, is 15 in. wide, producing 1 ton of ore per fathom. The lode in the waste sinking is 15 in. wide, producing 1 ton of ore per fathom. The lode in the waste sinking below the 78 west, is 1 foot wide, unproductive. We have held the rise in the back of the 73 west, on Youren's lode, to the 86 fm. level; we shall commence driving the 78 west in a few days. No lode has been taken down in the

SIR,—In the letter inserted by Mr. Cobbett in your last week's Journal, he states that the locomotive employed at Great Olinde Mine, in drawing and emptying

rise in the back of the 34 east, on the south lode, since last reported. The lode in the 66 fm. level, driving east on the north lode, is 2 1/2 feet wide, producing a little ore, and has a kindly appearance. The lode in the winze sinking under the 23 fm. level, on the new south lode, is 20 in. wide, containing spots of ore and much mud, and is a very promising appearance. The lode at Moreom's engine-shaft has not been taken down in the past week, nor in the rise in the back of the 32, west from Moreom's engine-shaft. The lode in the 32, driving east, is 2 1/2 feet wide, and is producing over one ton of ore per fathom. The lode in the back of the 23, west, is 2 1/2 feet wide, producing a few tons of ore. The lode in the 20 fm. level west is 2 feet wide, producing good stones of ore.

From Tincofort Mines, Cpts. W. Teague, J. Andrews, and J. Tremblay report:—At North Tincofort, in the 130 west, the lode is 2 feet wide, producing 1 ton per fathom; in the 130 east the lode is 3 feet wide, yielding 2 tons per fathom. The lode in the winze sinking under the 130 is worth for tin and copper 10¢. per fathom. The rise in the back of the 90, east from Willoughby's shaft, is worth 29¢. per fathom. At Highburrin lode, in the 162, driving east from shaft, the lode is 4 feet wide, and worth for tin 12¢. per fathom; the 162 west, 4 feet wide, and worth for tin 30¢. per fathom; the 132 east, 2 1/2 feet wide, and worth for tin and copper 10¢. per fathom. The 142 east, 3 ft. wide, worth for tin and copper 15¢. per fathom. At Chapple's lode

The new monster steam-ship *Pera*, belonging to the Peninsular and Oriental Company, cost \$6,000.



per cent. The district is of a metalliferous character, and has been spoken of in terms of approbation by experienced captains who have tested its capabilities. The district has been approved by the Gold & Silver Mining Association, and the Gold & Silver Mining Association have agreed to adopt the pro-



Dec. 29, 1855.

GENERAL CHARACTER OF THE GOLD-BEARING ROCKS.

At a recent meeting of the Institution of Civil Engineers, a paper, by Mr. Edwin Hopkins, was read, "On the Vertical Structure of the Primary Rocks, and the General Character of their Gold-bearing Varieties," in which the author commenced by stating that it was almost impossible to form a correct idea of the true character and geological position of the gold-bearing rocks, without being first acquainted with the symmetrical order of the crystalline structure of the fundamental series: hence the cause why the two subjects were combined in one paper. It proceeded to show that the vertical cleavage planes approximated very closely to the direction of the true meridian from the southern zone to the Arctic regions; and reference was made to various sections from Terra del Fuego to California, and from Australia to the Ural Mountains. This primary meridional structure had a great tendency to produce ridges in the direction of its bearing, and the predominance of north and south chains of mountains, like the South American, Californian, and the Ural, must be considered rather the effect than the cause of the internal, vertical, or polar structure. It was contended that the study of the structure and composition of rocks, mineralogy, metalliferous formations, and slate quarries, were as necessary to a thorough acquaintance with geology as palaeontology, to which attention was now so generally directed, and more important for the purposes of mining engineers. The rocks which produced gold, it was stated, belonged entirely to the primary, and not the fossiliferous series, as had been sometimes assumed, that metal never having been found in the sedimentary rocks, except in combination with quartz and pyrites, and then only in the vicinity of the primary ones, and, consequently, derived therefrom. It then stated that, in order to predict with any degree of certainty the existence of gold in any region, it was indispensable to ascertain if the primary series were uncovered by the sedimentary, and subject to disintegration; if the structure were found in a vertical, and more or less in a polar direction; and if the meridional crystalline bands predominated in ferruginous argillaceous schists, with talcose and quartzose slate, as fully described in the sections exhibited by the author.

The author expressed his conviction that the propagation of erroneous views, such as those of the sedimentary origin of the primary slates, and their being subsequently lifted to high angles, tended to vitiate the foundation of geological science as now taught, and that it was in the interest of true science that any actual observations, leading to more correct views, should be fairly and calmly discussed.

Purely scientific geologists generally at present direct their attention chiefly, if not exclusively, to palaeontology, considering probably that the study of the structure and the composition of rocks, mineralogy, the metalliferous formations, slate quarries, &c., were subjects connected more immediately with the professional avocations of the mining engineer than with the studies of scientific geologists.

We have only given an outline of the contents of the paper, as our space would not permit its insertion entire; but this is the less to be regretted, as full discussions and correspondence on its subject matter have so often appeared in our columns.

In a lengthened and interesting discussion which ensued, it was objected that the subject was of so purely a geological character, as to be scarcely adapted to a meeting of Civil Engineers; but it was shown that, as mining was an important part of the professional employment of engineers, the discussion of such subjects clearly came within the province of the Institution, more particularly as engineers had been reproached for not having devoted more attention to geology. In answer to the author's views, it was contended that the theory as to the vertical structure of the primary rocks was ideal, and opposed to the views of eminent geologists; and, on the other hand, it was contended that the observations should be admitted to be conscientious, until they were demonstrated by other travellers to be erroneous, more particularly as it was shown that, as mining was an important part of the professional employment of engineers, the discussion of such subjects clearly came within the province of the Institution, more particularly as engineers had been reproached for not having devoted more attention to geology. In answer to the author's views, it was contended that the theory as to the vertical structure of the primary rocks was ideal, and opposed to the views of eminent geologists; and, on the other hand, it was contended that the observations should be admitted to be conscientious, until they were demonstrated by other travellers to be erroneous, more particularly as it was shown that, as mining was an important part of the professional employment of engineers, the discussion of such subjects clearly came within the province of the Institution, more particularly as engineers had been reproached for not having devoted more attention to geology.

It was admitted that the author of the paper had done good practical service to mining engineers and to geologists, although he might, in carrying his views too far, almost have been guilty of geological heresy.

It had been asserted that the primary rocks in the gold districts of Virginia (U.S.) did not present a vertical character. Now, in the reports of Messrs. Andrew del Rio and John Millington, they stated that the rocks of this district, "They stood vertical in the talcose slate, and the talcose slate of the same gold region." "The strata stand nearly vertical, and have a direction of about 10° east of north." Mr. J. D. Whitney, mining engineer, wrote of that extensive district—"The prevailing dip is to the east, at a very high angle; in Virginia, they stand nearly vertical." Messrs. Clennon and Rogers stated, "The general strike (of talcose slate rocks) is from 29° to 32° north: the laminae stand vertical;" and the author quoted Prof. Sedgwick, Blake, Wilson, Wathen, and other geologists to the same effect.

Mr. Hargrove, in the account of his adventures in California, giving the reasons why he expected to find gold on his return to New South Wales, said, "Without any knowledge whatever of the science of Geology, I simply compared, in my own mind, the geological formations, which I saw in California, with others that I had seen in Australia, and becoming fully persuaded that if the existence of gold was to be tested by such outward appearances, gold must exist in Australia as well as in California, I acted on that persuasion, and at the very first trial (on my return to New South Wales) discovered gold."

It was contended that this corroborative evidence could not be lightly passed over in a society composed of pre-eminently practical men; either because the propositions were not in accordance with accepted theories, or because those who dissented had not had an opportunity of making personal observations, to enable them to confirm or deny, with authority, the views of the author. The Institution was, therefore, urged to act in this as on other occasions—to submit everything to the test of practical proof, so as to distinguish facts, founded on personal experience and observation, from symmetrical systems, based on arbitrary assumption.

RAILWAY TRAFFIC RETURNS.

ENGLAND.—Subjoined are the traffic returns of the various English lines for the last week:—

	1855.	1854.
London and North-Western	262,024	263,311
Lancashire and Yorkshire	20,633	19,270
London and South-Western	16,597	17,732
London and Brighton	12,705	12,046
Great Western	30,309	29,332
North-Eastern	31,504	30,252
South-Eastern	17,016	15,549
Great Northern	25,075	23,569
Chester and Holyhead	4,356	4,426
Manchester, Sheffield, and Lincoln	9,519	9,122
Eastern Counties, Norfolk, and Eastern Union	23,940	24,003
Bristol and Exeter	6,230	5,445
East Lancashire	5,529	5,293
London and Blackwall	1,092	1,145
Lancaster and Carlisle	5,322	5,314
Midland	30,019	29,332
Oxford and Wolverhampton	3,743	3,023
Newcastle and Carlisle	1,122	1,111
Shrewsbury and Chester	2,826	2,111
South Wales	6,540	5,602
South Devon	2,421	2,045
South Yorkshire and River Don	2,013	1,650
Taff Vale	3,775	3,519
West Hartlepool Railway and Harbour	2,605	2,348
Total	£328,965	£316,496

SCOTLAND.—The returns on Scotch lines are:—

	1855.	1854.
Aberdeen and Scotch Midland	£ 3,012	£ 2,473
Calcuttan	10,153	11,259
Edinburgh and Glasgow	4,438	4,438
Edinburgh, Perth, and Dundee	2,843	2,776
Glasgow and South Western	5,576	5,156
North British	4,999	4,683
Scottish Central	2,325	2,259
Total	£33,316	£33,377

IRELAND.—The Irish returns are:—

	1855.	1854.
Belfast and Ballymena	£ 831	£ 769
Dublin and Belfast Junction	1,133	1,009
Dublin and Kingstown	734	594
Dublin and Drogheda	1,362	1,231
Great Southern and Western	6,748	6,139
Londonderry and Enniskillen	718	562
Midland Great Western	3,478	2,717
Ulster	1,320	1,242
Total	£16,321	£14,294

RAILWAY TRAFFIC.—The traffic returns of railways in the United Kingdom for the week ending Dec. 22 amounted to 400,544, and for the corresponding week of 1854 to 382,759, showing an increase of 17,785. The gross receipts of the eight railways having their termini in the metropolis amounted for the week ending as above to 185,738, and for the corresponding week of last year to 183,687, showing an increase of 2,051.

The increase on the Great Northern Railway amounted to 1506; on the Great Western to 977; on the London, Brighton, and South Coast to 659; on the London and South-Western to 1855; on the South-Eastern to 1467; total, 6174. But from this must be deducted 631, the decrease on the Eastern Counties; 1267, on the London and North-Western; and 531, on the London and Blackwall, leaving the increase, as above, 5071.

The receipts on the other lines in the United Kingdom amounted to 211,786, and for the corresponding period of 1854 to 199,072, showing an increase of 12,714. In the receipts of those lines, which, added to the increase on the metropolitan lines, makes the total increase 17,785, as compared with the corresponding week of 1854.

THAMES ESPLANADE AND RAILWAY.—A project has just been registered, under the title of the "River Thames Esplanade Railway and Sewage Company." The promoter, Mr. Wieland, of Glasgow, proposes to construct river walls on both banks of the Thames, extending from London to Westminster Bridge, with a view of improving the channel and navigation, whilst increased wharfage accommodation would be given by means of quays, extending landwards a depth of 120 feet; a road, or esplanade, being formed on the north side, and 40 feet wide on the south side, of the river, handsome warehouses and shops being built on the other portion of the arches. It is likewise proposed to form a tunnelled railway under the arches, on the Middlesex side of the river, from London Bridge to Hungerford Market. Another feature of the scheme is the purifying the River Thames, by entrapping the sewage of London at the mouths of the present sewers, and conveying it from the heart of the metropolis to convenient spots, where it may be degraded and converted into manure for agricultural purposes. It would appear, irrespective of commercial considerations, to be an undertaking the utility of which, if found practicable, would recommend itself to public approval, as nothing can be more important than its proposed objects—that of purifying the Thames, adding to the wharfage, constructing convenient wharfage accommodation on the river, and providing a wide and rapid means of transit from the West-end to London Bridge, by which the present crowded thoroughfares will be relieved, to say nothing of the architectural beauty which it would give to the metropolis. An elaborate and beautifully-finished model of the proposed esplanade and buildings has been constructed by Mr. Wieland, an explanatory of the advantages of the scheme he is anxious to carry out.

WEEKLY LIST OF NEW PATENTS.

APPLICANTS FOR PATENTS AND PROTECTION ALLOWED.

S. Statham; Electric telegraph cables.—R. Tempest, J. Tomlinson, B. Hampson, and J. Hampson; Improvements in looms for weaving, which improvements are applicable for working the values of steam-engines.—T. Silvester; Steam engines and safety valves.—M. P. A. Gildard; A new motive power.—T. Schwartz; Drying, heating, and melting solid and plastic bodies.—G. Geyelin; Propelling vessels by means of pistons, which he calls anti-friction propellers, to supersede paddle wheels, screws, and all other contrivances at present in use.—F. Pais; A new electric light and heat.—E. O. W. Whitehouse; Improvements in electro-telegraphic apparatus, parts of which are also applicable for other purposes.—D. S. Price, and E. G. Nicholson; Manufacture of cast-steel.—A. J. B. L. de Marcehou; Improvements calculated to increase the efficiency of working power of steam-engines.—W. Munslow, and H. Wallwork; Railway.—C. T. Dunlop; Manufacture or production of artificial oxide of manganese.—W. Foot; Instrument for moving or stopping trucks and other carriages on railways.—W. Smith; Apparatus for regulating the supply of air to furnaces.—J. Barrow, jun.; Process of manufacturing soda and sulphuric acid.—T. R. Crampton; Improvement in furnaces and in the apparatus for supplying fuel thereto.—F. S. Thomas, and W. E. Tilley; Producing aluminium and its alloys, and in plating or coating metals with aluminium and alloys composed of aluminium and other metals.

IMPROVED MODE OF CASTING HOLLOW SPHERICAL BODIES.—Mr. Peters, of Union-street, Southwark, the patentee of a novel description of steam-engine, combining the reciprocating and rotative motions, which we gave a full description of in the Journal of July 7, has recently patented some machinery for the casting of hollow, projectiles, or other spherical bodies. The principle availed of by the patentee in this instance is, that fluids, or semi-fluid bodies, have a tendency to fly from the centre to the circumference when in rapid circular motion. The arrangement consists in the employment of a hollow mould, made in two or more parts, into which molten metal, or other necessary material, is passed through a pipe, which descends about midway into the mould, and then imparting to it two rotary motions, at right angles with each other. The centrifugal force acting in all directions distributes the contents of the mould evenly all round, while the internal pipe acts as an escape for the air and gases, and thus prevents any quantity of material, if any, from being forced therefrom. When casting shells, the inventor inserts round the outside of the internal pipe a ferule, or screw, which will become incorporated with the shell, and will be ready to receive a fuse, threaded with a corresponding screw. The thickness of the shell may be increased or diminished by pouring into the mould more or less metal, and the time it takes to set will, of course, vary with the quantity employed. The mould may, if desirable, be lined throughout with any suitable material, and may, also, be cooled after the casting is formed by the external application of water or other cooling matter. Other hollow articles may be formed in a similar manner, by altering the mould to suit the shape to be imparted to them.

IMPROVEMENTS IN SWING DOORS.—Mr. R. Watson Savage has just specified his patent for "Improvements in Single and Double Action Swing Doors," and his specification thus describes the invention:—"Close to the edge of the door, nearest its turning point, and secured underneath the same, so as to allow the door to travel in it, I have an inclined plane, or wedge piece, the surface whereof must be such as to compress the door, taken by the opening, shutting, or swinging of the door, and which inclined plane, or wedge piece, must be secured in such position underneath the door that the curve might be described thereon, and so that the door on being opened shall press first upon the lower part of the thin end of the inclined plane, or wedge, and then travel to the highest, or thickest part thereof. The superficies of this inclined plane, or wedge, may be of any suitable form, and instead of its being secured underneath the door, it may be fixed above the door. Also, instead of the said inclined plane, or wedge, being a solid piece, it might be made a flat piece, placed at an angle, and supported at the highest part of the incline by a spring, or springs, giving an upright action. Single action swing doors, which shut and open only, but do not swing backwards and forwards, must be hung upon lifting hinges, as the door rises up the inclined plane in opening, and runs down it in shutting. In all cases the door should be provided with rollers to travel over the surface of the incline, and it will be necessary to cut away (to the same extent as the wedge rises) the top or bottom (as the case may be) of the door, at the edge nearest the turning point, to allow the same to rise with the action of the wedge."

IMPROVED APPARATUS FOR PURIFYING AND CARBONISING GAS.—Mr. Samuel Rowlands, of Birmingham, has taken out a patent for a new mode of treating gas, consisting of a vessel or chamber, through which gas is made to pass, and which is in contact with a large surface of the liquid, to the action of which it is intended to be subjected. In this chamber is a float of cork, or other light material, having a spiral channel, which gives it a slow rotary motion. When it is wished to impregnate coal gas with the vapour of naphtha, the vessel is partly filled with the liquid, which is kept in a state of agitation by the rotation of the float as it sinks. Other carbonaceous fluids may be employed with like effect.

COLONIAL BANK.—The Court of Directors of the Colonial Bank hereby give notice, that, in pursuance of the provisions of the Charter, a HALF-YEARLY GENERAL MEETING of proprietors will be HELD at the London Tavern, Bishopsgate-street, on Wednesday, the 9th January, 1856, at Twelve for One o'clock precisely, to receive the report of the proceedings of the corporation; and for the election of five directors and one auditor, in the room of the following gentlemen, who go out by rotation:—viz. Thomas Naghten, Esq., William Tetlow Hibbert, Esq., Charles Motcher, Esq., Thomas Maitland, Esq., Sir Walter Minto Townsend Farnham, Bart., directors; Capt. W. G. H. White, R.N., and any, who being eligible, offer themselves for re-election.

The Transfer-books of the corporation will be closed on the 22nd inst., and re-opened on the 21st January, 1856. By order of the Court of Directors, 13, Bishopsgate-street Within, Dec. 17, 1855. C. A. CALVERT, Sec.

M. R. E. GOMPERS, No. 98, GRACECHURCH STREET, has BUSINESS TO TRANSACT in most of the leading DIVIDEND and PROGRESSIVE MINING SHARES, in Life, Fire, and Marine Insurance, Steam Navigation, various Gas Companies, and various Joint-Stock Companies' Shares, returning regular dividends.

M. R. R. EMERSON, SHARE DEALER, 3, COPTHALL BUILDINGS, THROGMORTON STREET, LONDON. BUSINESS TRANSACTED IN DIVIDEND AND PROGRESSIVE MINES, BRITISH AND FOREIGN RAILWAYS, and every other description of STOCK.

FOR SALE.—500 Great Hewas United Shares, at 3s. 6d. per share; and 30 Swanpool Shares, at 30s. per share.—Apply to Mr. R. EMERSON, No. 3, Copthall-buildings, Throgmorton-street, London.

CLARA MINE.—ONE SHILLING PER SHARE will be given for ONE or TWO HUNDRED, by applying to "A. B." Post-office, Salisbury.

MESSRS. C. H. J. GEDDES, W. BURGAN, AND CO., have OPENED AN OFFICE at No. 98, GRACECHURCH STREET, for the purpose of BUYING and SELLING SHARES in the following MINES:—Hawthorn, Swanpool, Gawton, Perran Wheel Mary Ann, Wheel Kitty (St. Agnes), 100 Lady Bertha. 50 Carew United.

MESSRS. C. H. J. GEDDES, W. BURGAN, AND CO., MINING AGENTS, beg to inform their friends and the public that they are DEALERS IN MINING SHARES, both DIVIDEND and PROGRESSIVE, and in all PROPERTIES relating to MINES; and they offer gratuitously information relating to such properties, which Mr. Burgan, from his practical knowledge, extensive connections, and long residence in Cornwall, is fully competent to supply. They also TRANSACT BUSINESS in GOVERNMENT SECURITIES, at regular charges, and in all JOINT-STOCK COMPANIES and OTHER SHARES.

M. R. R. TREDINNICK, of No. 4, AUSTINFRIARS, LONDON, and CAMBORNE, CORNWALL, STOCK and SHAREBROKER, GENERAL DEALER IN SHARES IN BRITISH MINES, MINE INSPECTOR, and GENERAL AGENT, OFFERS HIS SERVICES to capitalists and the public, in the SELECTION and PURCHASE of SHARES of every denomination. Many of the mines of Cornwall pay large rates of interest upon the current value of shares, in many cases 15 and 20 per cent. per annum, without the corresponding risk attached to railway and many other descriptions of speculative investments; to such would Mr. Tredinnick draw attention at this time, as advantageous medium for capital. Some few months ago he pointed out the following mines, which have since advanced materially in value, and others equally desirable at present quotations are upon the tapis, and it is incumbent upon those having a limited income from Consols or other securities, yielding only 3 to 5 per cent., to avail themselves of the favourable opportunity thus afforded. Mining is not at all times successful, but the risk is comparatively small when experience and practical discrimination is exercised in a judicious selection of progressive mines, situated in districts having analogy and profitable surrounding mines in their favour.

West Seton	£200 in January, has risen to 600 625
South Frances	300 " " 720 740
Alfred Consols	17 " " 17 18
United Mines	120 " " 260 280
Copper Hill	100 " " 200
Basset	500 " " 600 620
Ennerley and Basset United	1 1/2 " " 5 3/4
St. Paul	2 " " 2 9
East Basset	25 " " 52 1/2
Carvannall	3 " " 9 10
West Frances	15 " " 35 37 1/2
Kitty (Leland)	6 " " 35 37 1/2
Providence Mines	20 " " 50 55
Carnyorth	1 " " 4 4 1/4
Consolidated	100 " " 135 140
North Basset	18 " " 36 37
West Basset	30 " " 34 35
Clifford	220 " " 600 625

MINING INVESTMENT, &c.—The large amount of capital invested, and the great want of facility for conducting the sale and purchase of stock, has induced us to OFFER OUR SERVICES to capitalists and others, being in daily communication with practical men in all parts of the country, who have the means of obtaining the most correct information upon the principal mines in Devon, Cornwall, and Wales. There can be no doubt that mining securities afford to the capitalist a safe and profitable source of investment, many of which, by a careful selection, will ensure a return of from 15 to 20 per cent. for many years to come; others of a progressive character hold a promise of increased value, and of becoming a lasting and dividend property.

Messrs. FULLER and SONS, 51, THREADNEEDLE STREET, LONDON, respectfully TENDER THEIR SERVICES to capitalists, and to all persons desiring to obtain any information, connected with MINING, BANKING, or RAILWAY SECURITIES; and any orders confided to their care will receive the best attention. Office Hours from Ten till Five.

FLETCHER and CO., RAILWAY, MINING, INSURANCE, AND GENERAL SHAREBROKERS, 163, WOODHOUSE LANE, LEEDS. Gold Mining Shares wanted.

LATE FIRM OF HENWOOD AND MOLYNEUX.—An persons engaged in the late firm of HENWOOD AND MOLYNEUX, of Leeds, who having surveyed and broken, are hereby informed that on the 24th day of September last such PARTNERSHIP was DISSOLVED. All debts due to or by the late firm will be received and paid by Mr. Henwood, at his offices, 24, Goldsmith-street, Leeds. And notice is hereby further given to the public, not to trust or credit Mr. Molyneux on account of the late firm, as Mr. Henwood will not be liable in respect thereof. By order of Mr. HENWOOD, CHAS. NAYLOR, his solicitor. Trinity-street, Leeds, Dec. 27, 1855.

MR JOHN H. CLEMENT begs to OFFER HIS SERVICES as CONSULTING MINING ENGINEER to gentlemen and capitalists holding, or wishing to hold, interests in mines or mineral properties in any part of the globe. Mr. Clement having had a life-long experience in these matters in various parts of the world, enables him to give the most careful advice as to how and when, and with whom, to invest in mining property. Address, 10, Gloucester-terrace, Church-lane, Kensington. To parties inclined to invest in gold mines, Mr. Clement recommends the perusal of his pamphlet on the Marble Springs Mine, to be had on application to him, at his residence, as above.

REDUCTION OF GOLD ORES.—SAMPLES intended to be OPERATED UPON by Mr. CALVERT'S PROCESS may be FORWARDED to his LABORATORIES, Savoy,—care of Mr. Robert Hanson, 113A, Strand, London.

WATERSIDE PREMISES, 10, UPPER THAMES STREET.—TO BE LET, and may be entered upon immediately, a WAREHOUSE, about 120 ft. long by 18 ft. wide, with a strong floor and room above.—For particulars, apply to Mr. J. C. NEALON, on the premises.

TO BE LET, for such a term of years as may be agreed on, the LONG BENTON COLLIERY, near Newcastle-upon-Tyne, the property of the Right Hon. the Earl of Carlisle. At this colliery, the High Main Seam has been securely tubed off, and the shafts are sunk to the Low Main Seam, which has been recently extensively opened out. The engines, screens, and other stock upon the colliery may be taken at a valuation.—Further information can be obtained on application to Mr. LADDELL, Benton Grange, near Newcastle-upon-Tyne. Dec. 15, 1855.

TO PLASTER OF PARIS DEALERS, CAPITALISTS, AND OTHERS.

TO BE LET, three miles from Carrickmacross, County Monaghan, a large MILL, and QUARRY OF GYPSUM, of superior quality. The mill is worked by a steam-engine of 13-horse power, and will be found complete in all respects, and suitable for an extensive trade. For particulars, and to view, apply to GEORGE MORANT, Shilly Estate Office, Carrickmacross.

WANTED, by a YOUNG MAN (Aged 22), who has had much experience in "PRACTICAL MINING," is a competent ASSAYER, DIALLER, MINING ACCOUNTANT, &c., a SITUATION; he would prefer going abroad, though an appointment at home would not be objected to. A large salary not so indispensable as an immediate engagement. Unexceptionable references can be given.—Address, "J. W. J.," Mining Journal office, 26, Fleet-street, London.

WANTED, a SITUATION as MINERAL or UNDERGROUND SURVEYOR, by a YOUNG MAN (30 years of age). The advertiser, who can execute finished plans, can also be well recommended as an underground surveyor. Would have no objection to fill up his time in an office, or take a situation as assistant to a mechanical draughtsman or land surveyor. Has been a colliery agent. Has good testimonials.—Address, "C.," Mining Journal office, 26, Fleet-st., London.

TO SMELTERS.—The ADVERTISER, who has a thorough knowledge of chemical analyses, and the chemistry of the metals, and is also practically acquainted with smelting operations on the large scale, having been engaged in them for years, wishes for an APPOINTMENT as CONSULTING CHEMIST to a SMELTING WORKS, and will have no objection to reside convenient to the works, if required.—Address, "J. B. N.," Mining Journal office, 26, Fleet-street.

TO COLLIERY OWNERS AND OTHERS.—TO BE SOLD, BY PRIVATE CONTRACT, an excellent CONDENSING ENGINE, cylinder 30 in. diameter, 40-horse power, manufactured by Murray, of Chester-le-Street. It is almost new, and in good order, and, from its site being required for improvements in Gateshead, would be sold at a sacrifice.—To be seen by applying to Mr. JOHN LAMB, town surveyor; or Messrs. HAUGIE BROTHERS, ropemakers, Gateshead-upon-Tyne.

TO IRONMASTERS.—DUSTON IRON ORE COMPANY.—This company is NOW in a POSITION to SUPPLY IRONSTONE from their Works at Duston, in the county of Northampton, at 3s. 3d. per ton.—Tenders for any quantity required to be sent to Mr. THOMAS NURSE, Wellington Chambers, Cannon-street, London.

MANGANESE ORE, of superior quality (about 86 per cent.), FOR SALE, delivered in any part of England.—Address, "R. R.," care of Mr. Darr, 4, Birch-lane, Cornhill, London.

LEICESTER COLLEGIATE SCHOOL.—The Rev. HUMPHRY DAVY MILLET (one of the Assistant Masters), who receives a small number of boarders, wishes to fill up ONE VACANCY. Terms, £50 per annum, including Board, and Instruction in Classics, Mathematics, Chemistry, History, Geography, French, German, and Drawing. Reference may be made to Rev. J. F. Isaacson (late Tutor of St. John's and King's Colleges, Cambridge), Freshwater Rectory, Isle of Wight; G. P. Hubbard, Esq., Rhymney Ironworks; C. R. Monte, Esq., 65, Old Broad-street, London. 58, Sparkenwoode-street, Leicester, Dec. 20, 1855.

COBALT AND NICKEL.—HENRY MERRY, REFINER AND PURCHASER OF COBALT AND NICKEL ORES, and ASSAYER IN GENERAL.—Address, LEE CRESCENT, BIRMINGHAM.

NICKEL AND COBALT REFINING, AND GERMAN SILVER WORKS, MILL STREET, BROAD STREET, BIRMINGHAM.—STEPHEN BARKER begs to inform the Trade that he has the following articles for sale:—REFINED METALLIC NICKEL. OXIDE OF COBALT. IRON. &c. REFINED METALLIC BISMUTH. GERMAN SILVER—in INGOTS, SHEET, NICKEL AND COBALT ORES PURCHASED.

CUBERT UNITED SILVER-LEAD MINES.—The LONDON AGENCY of these mines has been REMOVED to the OFFICES of Mr. W. C. FOULKES, 58, OLD BROAD STREET, where the business will be conducted on and after 1st January, 1856.

LEAD MINES.—There is a FINE FIELD for LEAD MINING SPECULATORS OFFERED to the public, of large extent, between the Rivers Nidd and Wharfe.—Applications to be made to J. YORKE, Esq., Bowerley, Ripon.

BOTTLE HILL MINE, DEVON.—Persons desirous of a LEASE of this SETT, one of the oldest and most productive tin works in Devon, may NEGOTIATE for the same by applying to Messrs. BUCKER and BROWN, solicitors, Manor Office, Stoneyhatch.

GREAT WHEEL BUSY UNITED MINING COMPANY (LIMITED). In 6000 shares of £10 each.—Deposit 50s. per share. Notice is hereby given, that the SHARE LIST is now CLOSED, and that the DEPOSITS on the shares must be PAID to the bankers of the company, Messrs. Martin and Co., of Lombard-street, London; or to Messrs. Twedy, Williams, and Co., of Truro and Redruth, Cornwall; on or before the 10th January, 1856. By order of the Board, R. C. MANUEL, Sec.

7, Old Broad-street, London, Dec. 18, 1855.

TINCROFT MINING COMPANY.—Notice is hereby given, that a GENERAL MEETING of this company will be HELD at the company's offices, 61, Moorgate-street, London, on Thursday, the 3rd day of January next, at Twelve o'clock at noon precisely; and that such meeting will be rendered SPECIAL, for the purpose of transacting all or any business within the powers of an annual general meeting of this company. By order of the Board, HIRAM WILLIAMS, Sec.

WHEEL UNY.—Notice is hereby given, that the NEXT QUARTERLY MEETING of the adventurers will be HELD at No. 69, Lombard-street, London, on Tuesday, the 15th January next. The chair will be taken at One o'clock precisely.—Dec. 27, 1855. JAMES HUTT, Sec.

WICKLOW COPPER MINE COMPANY.—The STATED HALF-YEARLY MEETING of the company will be HELD at their office, 10, Leinster Chambers, 43, Dame-street, on Thursday, the 10th day of January, 1856, at the hour of One o'clock p.m. The statement of accounts will lie at the office, for the inspection of proprietors, on and after Saturday, the 5th proximo, from Eleven to Four o'clock. Dublin, Dec. 28, 1855.

MEXICAN AND SOUTH AMERICAN COMPANY.—The TWENTY-FIRST DIVIDEND, of SEVEN SHILLINGS AND SIXPENCE per share on the shares of this company, free of income tax, will be PAID on or after the 19th January, between the hours of Eleven and Three. Forms for claiming the dividend may be obtained by the shareholders on application at the office. 17, Gracechurch-street, Dec. 12, 1855. HYDE CLARKE, Sec.

ROYAL SANTIAGO MINING COMPANY.—The directors of this company hereby give notice, that they have this day made a CALL upon the shareholders of ONE POUND per share, to be paid to the company's bankers on or before the 29th day of November, 1855. By the terms of the agreement constituting the company, all shares of those proprietors who do not pay the said call of £1 per share within 30 days after the 29th November will be absolutely forfeited. The form to make the payment will be delivered upon application at the office, and the certificates must be lodged at the same time to have the payment endorsed thereon. 38, Broad-street-buildings, Sept. 26, 1855.

ROYAL SANTIAGO MINING COMPANY.—The Directors hereby give notice, that the HALF-YEARLY GENERAL MEETING of the shareholders will be HELD at the office of the company on Wednesday, the 23rd January next, at One o'clock precisely, when the directors will make their report. 38, Broad-street-buildings, Dec. 15, 1855.

WEST MARIPOSA GOLD MINING COMPANY.—The ADJOURNED MEETING of the scrip-holders is CONVENED for Thursday, the 3rd January, at the North and South American Coffee House, Threadneedle-street, at Twelve for One precisely, to hear the report of the gentlemen who were deputed to wait on the directors.—Dec. 27, 1855. H. GUELLA.



**SHREWSBURY AND WELSHPOOL RAILWAY.**  
WITH A BRANCH TO MINSTERLEY.  
Capital £150,000, in shares of £10 each.—Deposit £1 per share.  
CHAIRMAN—THE EARL OF POWIS.  
SECRETARY (PRO TEM.)—A. Howell, solicitor, Welshpool.  
SECRETARY TO THE SHREWSBURY COMMITTEE—R. S. FRADG, solicitor, near Shrewsbury.  
SOLICITORS—S. F. Noyes, 5, Lincoln's Inn-fields, London; A. Howell, Welshpool.  
ENGINEER-IN-CHIEF—P. W. BARLOW, Esq., F.R.S.  
ACTING-ENGINEER—B. FIERY, Esq.  
BANKERS—Messrs. Beck, Downward, Scarth, and Bowen, Shrewsbury and Welshpool.  
Messrs. Croxon and Co., Oswestry.  
The North and South Wales Branch Bank, at Newtown, Aberystwyth, Welshpool, and The National Provincial Branch Bank, Machynlleth.

It is proposed to apply to Parliament for power to make a railway, commencing by a junction with the authorised line of the Oswestry and Newtown Railway, in the parish of Buttington, near Welshpool, and thence passing by Waulston, Westbury, Yuckleton, Crack Meole, Hanwood, Hock-a-Gate, and Brace Meole, and terminating by a junction with the Shrewsbury and Hereford Railway, at Coleham, near Shrewsbury; together with a branch commencing by a junction with the main line at Crack Meole, and passing by Lea Cross, Pontesford, and Pontesbury, to Minsterley.

The object of the undertaking is to connect the county of Montgomery, the mineral district of the Rea Valley, and the Llanymynech lime rocks, with Shrewsbury, the Midland Counties, and London, and to supply also an important link in the chain of communication annually approximating towards completion between Manchester and the other manufacturing districts of Lancashire and Yorkshire, on the one hand, and Milford Haven, Aberystwyth, South and Central Wales generally, on the other.

The necessity for this addition to the railway system of England and the Principality has been so strongly felt, during the last eleven years, many schemes for supplying it have been before the public. The important results to be obtained by its accomplishment have been so fully discussed, that it is deemed unnecessary to recapitulate them.

The delay in supplying this communication has been chiefly occasioned by the difference of opinion which has existed in respect to the precise route it should take. In laying out the present scheme advantage has been taken of the discussions to which its predecessors gave rise; all that has been urged for or against the several routes before proposed or suggested has been fully considered; and the present line has been selected so as to embrace the several conflicting interests, while the efficiency of the main line as a through route has been carefully preserved.

The requirements of the standing orders have been complied with, by the deposit of the plans, sections, and books of reference, and the notices have been served on the owners and occupiers of the land necessary for the line.

A careful estimate of the cost of the works and purchase of the land, &c., has been made, and it appears that the undertaking can be satisfactorily completed for the sum of £150,000, being less than £7000 per mile, while the average cost of the railways in the kingdom has been no less than £33,000 per mile, or nearly five times the amount to be expended on this line, and some of the best known in the neighbourhood have cost £50,000 or £60,000 per mile.

In *Chatterbox's Review*, the author makes the following remarks:—"It may be considered as certain that any line, the cost of which is limited to £10,000 or £12,000 a mile will undoubtedly afford a good return to its shareholders, however thinly populated and unpromising may be the district through which it runs. It is important that these facts should be borne in mind in judging of the expediency of any prospective railway extensions. It is essential to our commercial prosperity and our pre-eminence as a nation, that none of the sources of wealth with which a beneficent Providence has so freely gifted this favoured country should remain undeveloped; not a native nor quarry of importance, not a single agricultural district, should be allowed to remain without the advantages of railway communication. It is quite possible to effect this, and in such a manner as to ensure an adequate return upon the capital employed, but it is to be effected only by the hearty co-operation of all parties interested in the matter, whether as landowners, occupiers, or shareholders, and by the exercise of a rigid and sound economy in the formation of the works. Some few lines have lately been constructed under these conditions with the most singular success."

In order to secure an early return, and a certain dividend of not less than 4½ per cent., the London and North-Western Company are prepared (with the sanction of Parliament) to enter into traffic arrangements, under which, without giving that company any exclusive privileges, or taking anything from the proceeds of the present undertaking, it will be stipulated, that should those proceeds at any time be insufficient to pay 4½ per cent., there shall be an apportionment in favour of this company of the proceeds of the conveyance of our through traffic over any part of their railways, to such an extent (not exceeding 70 per cent. for this company, or less than 30 per cent. for the London and North-Western Company) as will make up the deficiency.

The well-known contractors, Messrs. Thornton and McCormick, who have undertaken the construction of the Oswestry and Newtown Railway, have expressed themselves willing to subscribe one-third of the capital, or £50,000; and it remains to be seen whether the landowners, agriculturists, and other inhabitants of the district will, under such favourable circumstances, come forward, and by subscribing the remainder of the capital, secure for themselves the great advantages which the scheme is calculated to supply.

Application for shares in the annexed form to be forwarded to either of the secretaries.

To the Managing Committee of the Shrewsbury and Welshpool Railway Company.

GENTLEMEN,—I request you to allot me shares of £10 each in the capital of this undertaking; and I agree to accept the same, or any smaller number that may be allotted to me, and to pay the deposit thereon, and sign and execute the Subscribers' Contract when required.

Dated this day of 1855. Signature.....  
Christian and surname in full.....  
Address.....

**GEELONG AND MELBOURNE RAILWAY COMPANY.**  
Incorporated by an Act of the Victoria Legislature, 8th February, 1853.  
Capital £250,000, in 17,500 shares of £10 each.  
Bearing a minimum interest of 5 per cent. per annum.  
Guaranteed by the Colonial Government for 21 years, and payable half-yearly, viz., on the 20th April and 20th October, in the Colony and in London.

DIRECTORS.—ELECTED BY THE SHAREHOLDERS.  
CHARLES NUTTALL THORNE, Esq., J.P., President.  
WILLIAM G. McKELLAR, Esq., J.P.  
CHARLES HIBBERTSON, Esq., J.P.  
JAMES B. HUTTON, Esq.  
APPOINTED BY THE COLONIAL GOVERNMENT.  
CHARLES EDWARD STRUTT, Esq., J.P., Immigration Agent.  
GEORGE F. BELCHER, Esq., Sub-Treasurer.  
ENGINEERS.—Edward Snell, Esq. SECRETARY.—Martin Sholl, Esq.

MANAGER.—S. J. Cooke, Esq., 36, Cannon-street, late Treasurer to the Colonial Government, and a Director of the Company.

AGENTS.—Messrs. Larnach and Walker, 37, Cannon-street.  
EXAMINING AND CONSULTING ENGINEERS.—Daniel Gooch, Esq., C.E., Great Western Railway; Henry Stothert Esq. (Stothert and Slaughter), Bristol.  
SOLICITORS.—Messrs. Goodwin and Co., 3, Lancaster-place, Strand.  
BANKERS.—London Joint-Stock Bank; and Bank of New South Wales.

By advices, dated 12th September last, further intelligence has been received of the progress of the above undertaking, which is now rapidly approaching completion. It is anticipated that 16 miles will be ready for traffic in January next, and that the communication between Geelong and Melbourne will be formally opened at the date of the sixth half-yearly meeting of shareholders in July of the ensuing year.

Applications continue to be received for the unallotted guaranteed shares of £20 each, at not less than par, which must be paid in full, interest taking effect from the date of payment, and so endorsed on the share certificates.

Lithographed plans of the line, reports, and traffic estimates, may be procured, and all further information obtained, on application at the office of the company.

S. J. COOKE, Manager.  
Geelong and Melbourne Railway Office, 36, Cannon-street, City, Dec. 1, 1855.

**FORM OF APPLICATION FOR SHARES.**  
To Messrs. Larnach and Walker, 37, Cannon-street, London.

GENTLEMEN,—I request that you will allot to me guaranteed shares of £20 each in the Geelong and Melbourne Railway Company, at, and I hereby undertake to accept the sealed certificates, and to pay for the same on receipt of the allotment letter.

Name.....  
Address.....  
Profession or business.....  
Usual signature.....

Date .....

**ANTI-EXPLOSIVE BOILERS, BY DUNN, HATTERSLEY, AND CO., WINDSOR BRIDGE IRONWORKS, MANCHESTER.**

The more important of the numerous advantages possessed by DUNN'S PATENT DUPLICATE RETORT STEAM BOILERS, are, their EXCEEDING STRENGTH and SIMPLICITY OF CONSTRUCTION, enabling the manufacturers to make them at a LOW PRICE. Being made in parts, all of which are duplicates, any portion can be readily replaced at any time, or the whole may be enlarged with the utmost facility, by placing more cylinders side by side, joining the whole into a continuous corrugated flat-bottomed retort.

This important point in their construction entirely obviates the DANGER OF EXPLOSION (from being tended by unskilful men), as damage done to one portion cannot affect the others, or disarrange the whole.

Every part is SEVERELY TESTED before leaving the manufactory, and warranted. These boilers are ECONOMICAL in use, their large heating surface giving the greatest effect with the smallest amount of fuel. Their rooky furnaces admit of the consumption of the cheaper and more bulky kinds of fuel, such as brushwood, sawdust, small coal, waste, refuse of resin, pitch, grass, cane refuse, &c. They are adapted to any kind of smoke burners, and their clear circulation of water prevents scaling or clogging with dirt.

By a slight difference in the arrangement of the parts, they can be made SUITABLE FOR LAND, MARINE, or LOCOMOTIVE ENGINES; for use in sugar refining, tallow rendering, extracting palm, fish, and other oils, or the saccharine matter from beet-root, cane, &c., and every other use to which boilers are applied.

Being, as before stated, manufactured in parts, each of which will not exceed in weight 2 cwt. to 3 cwt. (as the case may require), they possess great facilities for transport by water or land, particularly in the interior of mountainous districts, where roads have not been established.

These boilers have been well tested in the manufacturing and mining districts of England, and have been most highly approved for both home and foreign use by the most eminent engineers. LICENSES are GRANTED to manufacture these boilers.

For prices, further particulars, or any information, apply to the patentees, Messrs. DUNN and CO., Windsor Bridge Ironworks, near Manchester.

**HORIZONTAL ENGINES, from 8 to 70-horse power; and TURN-TABLES, from 10 ft. to 40 ft. diameter; always in a forward state of manufacture, to ensure quick deliveries. Every description of RAILWAY PLANT supplied at the shortest notice.**

**NOTICE TO INVENTORS AND PATENTEES.**—The OFFICES FOR PROCURING PATENTS are REMOVED to No. 32, ESSEX STREET, STRAND, LONDON, where all information (British and foreign) may be obtained gratis.—AVARY, BELLFOUR, GARDINER, and Co., patent agents and negotiators.

**NOTICE IS HEREBY GIVEN,** that, pursuant to TWO several ORDERS, or DECREES, made in these Causes, and bearing date respectively the 10th and 14th days of November last, a PUBLIC AUCTION will be HELD at BATESMAN'S CHAMBERS, 10, FLEET STREET, LONDON, on Tuesday, the 8th day of January next, at Eleven o'clock in the forenoon, for SELLING, either together or in lots, the undermentioned MINING MACHINERY, MATERIALS, and OTHER EFFECTS, viz.:

1 36 in. cylinder engine, complete.  
1 boiler, 9 tons.  
1 water-wheel, 38 ft. high, and 4 ft. wide, with iron axle for 12 heads and 4 stamp heads, and lifters attached.  
1 8-barred capstan and shears.  
7 9 ft. 6 in. pumps.  
2 4 ft. 6 in. pumps.  
2 9 ft. 4 in. working-barrels.  
2 4 in. do. do. do.  
2 6 in. windbores.  
3 balance-bobs; 1 V-bob; 1 horse-whim; 3 horse-whims, with shaft tackle, complete; 80 fms. whim-chain; 40 fms. whim-ropes; 50 fms. whim-rope, nearly new; 20 fms. 4 ft. launders; 50 fms. small launders; 4 4 ft. sheaves; 2 3 ft. ditto; 2 2 ft. ditto; 80 fms. 3 and 6 in. wood rods, with pulleys and stands; pump rods; buckets and prongs; grinding stone; smith's bellows, anvils, vices; screw stock; screw wrights; taps and plates; smiths and miners' tools; a quantity of new and old iron; cast-steel; bolts and nuts; old timber; boulders; wood sheds; kibbles; miners' chests; sampling scales and weights; tables, desk, and forms; 40 fms. 5 and 6 in. wood rods; 10 fms. 3/4 in. iron rods; 60 fms. wood staved ladders; and 60 fms. casing and dividing.

For viewing the same, application may be made to Mr. MORRIS, on the mine; and for further particulars, to Mr. H. S. STOKES, solicitor, Truro; or to Mr. JOSEPH ROBERTS, solicitor, Truro.

Dated Registrar's Office, Truro, the 19th day of December, 1855.

**SHARES IN MINES AND SHIPS FOR SALE.**

**MR. BELLINGER WILL SELL, BY AUCTION, on Thursday, 3d day of January next, by Three o'clock in the afternoon, at the Three Tuns Hotel, Penzance—**

15 (6724) SHARES in that valuable tin mine, DING DONG, in Madron.  
28 (1024th) SHARES in that excellent tin mine, BALLESWIDEN, in St. Just.  
3 (1024th) SHARES in GREAT WH. FORTUNE MINE, in Broage, near Wh. Vor.  
4 SHARES in PENZANCE SHIPPING COMPANY.

Dated Dec. 20, 1855.

**VALUABLE MINE MATERIALS FOR SALE.**

**MR. WM. HANCOCK WILL SELL, BY AUCTION, on Tuesday, the 8th day of January, 1856, at Ten o'clock a.m. precisely, at the TYWARDREATH MINE, in the parish of Tywardreath, near St. Austell, Cornwall, the MATERIALS in and upon the said MINE, comprising—**

9 ft. stroke in the cylinder, and 8 ft. in the shaft, with two boilers about 24 tons.  
18 18 in. pumps.  
1 18 in. pump, wrought-iron, 9 fms. long.  
22 13 in. pumps.  
7 13 in. pumps.  
19 12 in. pumps.  
9 11 in. pumps.  
3 10 1/2 in. pumps.  
12 9 in. pumps.  
1 8 in. pump.  
1 7 ft. 10 in. working-barrel.  
1 10 ft. 14 in. working-barrel.  
1 7 ft. 14 in. working-barrel.  
1 12 ft. 11 in. working-barrel.  
1 10 ft. 10 1/2 in. working-barrel.  
1 11 ft. 10 in. working-barrel.  
1 12 ft. 9 in. working-barrel.  
1 12 ft. 8 in. working-barrel.  
1 10 ft. 18 in. plunger-pole.  
1 10 1/2 ft. 14 in. plunger-pole.  
1 10 ft. 9 1/2 in. plunger-pole.

50 fms. of 12 in. main shaft pulleys and pins to fit; 160 fms. horizontal iron rods; 2 1/2 in. dia. 39 fms. and frames; 2 1/2 in. dia. 2 shafts; 2 shears; 1 balance-bob; 105 fms. 12 in. capstan-rope; 124 fms. 12 in. capstan-rope; 130 fms. 6 in. whim-rope; 130 fms. 5 1/2 in. whim-rope; 1 40 in. smith's bellows; vice; anvil; smith's tools; screw stocks; 1 20 ft. water-wheel, 2 ft. breast; air machine; crab winch; several pairs of large and small iron blocks; 2 powerful hand screws; engine counter; staples and glands; flange pins; bucket rods; ladders; tram wagons; a large quantity of railroad iron and saddles; 3/4 in. and 9/16ths chain; timber; air-pipes; wrought and cast-iron; brass; and a great variety of other materials.

Full particulars will be given in catalogues, which may be obtained at the mine on the day of sale. For further particulars, apply to Messrs. JOHN TAYLOR and SONS, 6, Queen-street-place, Upper Thames-street, London; Capt. BARRETT St. Austell; the agent on the mine; or to the auctioneer, St. Austell.

The auctioneer begs to call particular attention to the above sale, the materials being in very good condition, and within a quarter of a mile of the excellent shipping port of Par.—Dated Sidney-place, St. Austell, Dec. 20, 1855.

**LOCOMOTIVE ENGINES FOR SALE.—TO BE SOLD, BY PUBLIC AUCTION, at the RAILWAY STATION, on the North side of the River, at Stockton-on-Tees, on Wednesday, the 16th day of January, 1856, SIX LOCOMOTIVE ENGINES and TENDERS, belonging to the Stockton and Darlington Railway Company. The engines may be seen, and further particulars obtained, on application to Mr. WILLIAM BOOTH, Shildon Works, near Darlington.**

By order, THOMAS MACNAY, Sec.  
Railway Office, Darlington, Nov. 30, 1855.

**SKIDDAW AND BLENCATHERA MINES, NEAR KESWICK, CUMBERLAND.—MACHINERY FOR SALE, BY PRIVATE CONTRACT, consisting of 20 ft. WATER-WHEEL, 3 ft. broad, nearly new; and very substantially built, crank, connecting rods and bob, sole trees, &c.; 12 fms. of 7 1/2 in. pumps; 12 fms. of 1 1/2 in. rods; 12 fms. of ladders, dividing boards, &c.; 1 crushing mill, with 1 pair of plain rollers and fittings; tubs, boulders, and washing materials; smith's tools; a quantity of mining tools; horse-whim, kibbles, rope, &c.; crab winch; bucket do. do.; spare timber; iron, &c.**

The directors are empowered to treat with any respectable party for the transfer of the set, containing many promising lead and copper lodes, from which about £500 worth of ore has been sold by the present company.

The mines and machinery may be seen on application to Capt. JOSEPH KEESWICK, and further particulars may be had on applying to Mr. JOS. HEWSON, secretary, Cockermouth, Cumberland.

**WHEAL SUSAN, SITHNEY, CORNWALL.—TO BE SOLD, BY PRIVATE CONTRACT, an excellent 20 in. cylinder STEAM-ENGINE, 9 ft. stroke, equal beam, with one boiler about 8 tons, 24 head stamps, two fly-wheels, &c., complete, and in first-rate condition, together with all the woodwork of engine-house and boiler-house, &c.—Application to be made to Mr. FRAS. DANIELL, Camborne; Mr. JOHN BURGESS, auctioneer, Burncoose, Redruth; or Mr. H. V. NEWTON, auctioneer, printer, &c., Camborne.**

**TO BE DISPOSED OF PART or ALL of a large MINING SETT, in good locality, and in the neighbourhood of rich mines. Dues very easy, and water-power in abundance, if required. For particulars and information, address "A. Z." Mining Journal office, 26, Fleet-street, London, where plans and specimens of the ore can be seen.**

**MINERALS, &c., TO LET.—TO LET, upon long leases, the MINERALS under the Stepley Estate, in the counties of Carmarthen and Glamorgan, South Wales, comprising upwards of 12,000 acres, and containing IRON-STONE, BLACKBAND, ANTHRACITE, BITUMINOUS, and STEAM COAL, and CULM, LIMESTONE, MARBLE, and FLAG QUARIES, FIRE-CLAY, and BRICK EARTH; also, desirable SITES for the erection of COPPER and other SNEELING WORKS, TIN-PLATE and other MANUFACTORIES, where cheap fuel, and easy communication by rail and vessel are of importance.**

Apply to Messrs. FEARON and CLARON, 21, Great George-street, Westminster; or to Mr. WILLIAM ROSSER, mineral surveyor, Llanelly, South Wales.

**MANGANESE.—ON SALE, a CONSIDERABLE QUANTITY of MANGANESE, of very good quality, ready for delivery, a portion of which is now lying at the warehouse in Sheffield. It has been assayed by Dr. Bingley, and produced as follows:—**

Carbonic acid, moisture, &c., capable of being driven off by 13-904  
at a low red heat..... 33-516  
Silica, alumina, &c., forming gangue..... 6-960  
Peroxide of iron..... 45-620=100-000  
Oxide of manganese.....

For further particulars apply to Mr. GEORGE WILSON, share and mining broker, No. 6, George-street, Sheffield.

**COLLIERIES FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, TWO valuable COLLIERIES, in full working order, and yielding a handsome revenue, situate in the West Riding of the county of York, and accessible by the Great Northern and South Yorkshire Railways, and the Dearne and Dove Canal. The bed of coal which is being worked is of excellent quality, and about 4 ft. thick. An extensive area is opened, and the ground proved to be free from faults.—For further particulars, and to treat for the same, apply to Mr. W. H. PRACOCK, solicitor, Barnsley.—Dec. 5, 1855.**

**ANTHRACITE COAL.—TO BE LET, for a term of years, all the valuable SEAMS of ANTHRACITE COAL lying under the Farm of Crewell, in the parish of Lawrenny, county of Pembroke, containing upwards of 300 acres. The above coal is of superior quality, and conveniently placed for shipment, being situated on a branch of the Milford Haven, within a short distance of the terminus of the South Wales Railway.—For further particulars, apply to T. M. MARriott, Esq., 1, Lancaster-place, London; JAMES SUMMERS, Esq., Haverfordwest; or Mr. JAMES WILSON, mineral surveyor, &c., Underwood, near Haverfordwest; Underwood, Oct. 26, 1855.**

**IMPORTANT TO IRONMASTERS.**—Several portions of the IRONSTONE and IRON ORES on the MULGRAVE ESTATE, near Whiby, belonging to the Marquis of Normandy, are still unlet, and may NOW BE TAKEN on advantageous terms. This immense seam runs for about five miles along the cliff-facing the German Ocean, is from 8 to 15 ft. in thickness, and is allowed by competent authority to be much the richest ironstone yet discovered in Cleveland. It is within 16 miles (by sea) of Hartlepool, and 20 of Middlesbrough—both the above places now becoming celebrated for the manufacture of iron. The seam will be divided so as to suit companies; and further information may be obtained on application to Mr. KERR, at Lythe Hall Office, near Whiby; or of Messrs. LEWIS and CO., 51, Lincoln's Inn-fields, London.—Lythe Hall, Dec. 11, 1855.

**COAL NATIONAL ANNUITY FUND.—THE SUBSCRIPTION.**

ACCOUNTS NOW OPEN at the banking-house of Sir John W. Lubbock and Co., Mansion House, London, where contributions in aid of this important cause, from public spirited individuals, now so alive to great national duties, will be duly acknowledged, and where a list may be seen of the Committee promoting the same.

A COPY of the GENERAL PETITION, in course of signature, to the House of Commons, and full particulars of the extraordinary facts, including a pamphlet kindly furnished by David Mushet, Esq., giving a sketch of the iron trade of this country in the last century; the origin of our export trade in 1785, now reaching more than 1,000,000 tons yearly; the consequent annihilation of the export trade of Russia, which event alone has enabled us to maintain our present proud pre-eminence over that power, on whom we were previously in servile dependence for this necessary to the arts, either of peace or war; the treatment in 1789 of the author of these vast benefits by public defrauders and others; the recompense made to his widow and orphans by the House of Commons in 1812, for saving up to that time to the British empire more than £30,000,000 sterling; may be had at the Mining Journal office, 26, Fleet-street; the *Mechanics' Magazine* office, 166, Fleet-street; or by post on remittance of three postage stamps.—Dec. 20, 1855.

**TO RAILWAY COMPANIES, ENGINEERS, MACHINE MAKERS, SHIPBUILDERS, CONTRACTORS, MINERS, MANUFACTURERS, AND OTHERS.**—Mr. WHEATLEY KIRK respectfully calls attention to his very large STOCK of STEAM-ENGINES, HORIZONTAL and VERTICAL, of the most efficient and modern construction; and also to his extensive assortment of NEW TOOLS, of the best manufacture, including Single and Double-geared Lathes, either with or without cast metal beds; Sliding, Surfacing, Screw-cutting, and Boring Lathes, of every description; Planing Machines; Drilling, Boring, Slotting, Shaping, and Bolt-screwing Machines; Punching and Shearing Machines; Compound Slide Rests; Screwing Tackle, &c.

Offices, Cross-street Chambers, Manchester; Stores, Bonded Wharf, Salford.

**SPLENDID 16 in. EXTRA STRONG SCREW-CUTTING and SLIDE LATHE, with compound slide rest, screw whole length of bed, complete set of change wheels for screw-cutting, bed 20 ft. long, top driving apparatus, and all complete.**—WHEATLEY KIRK, Cross-street Chambers, Manchester, and Bonded Wharf, Salford, where there is always ready for delivery the largest stock in the kingdom of engineers' tools, steam-engines, railway and mining plant, &c.

**TANK LOCOMOTIVE WANTED, not to exceed 8 or 10 tons weight, water-tank included, 8 or 9 in. cylinder, 4 wheels coupled, copper fire-plate for anthracite coal.**—Apply to WHEATLEY KIRK, Manchester.

**LIMITED LIABILITY.—WANTED TO EXCHANGE FOR RAILWAY SHARES, at their present market value, a CORRESPONDING NUMBER OF SHARES in a NEW LIMITED LIABILITY MANUFACTURING COMPANY, now working under patents of first-class value, some of which have realised an average profit during the last five years of 15 per cent., and another patent 20 per cent.—Full particulars, showing these profits, will be sent (confidentially) by post, on satisfactory reasons for an exchange of shares explained, either by letter or on personal application to WHEATLEY KIRK, Cross-st. Chambers, Manchester.**

**FOR SALE, THE FOLLOWING STEAM-ENGINES:—A 70 in. cylinder ENGINE, 10 ft. stroke, quite new, with or without boilers; a 27 in. 10 ft. stroke, DIRECT-ACTING ENGINE, with about 9 tons of boiler, complete; a 24 in. HORIZONTAL DOUBLE-ACTING ENGINE, 8 ft. stroke, without boiler;—Apply to Capt. THOMAS RICHARDS, Hayle.**

**ENGINES.—FOR SALE, THREE 12-horse HIGH-PRESSURE HORIZONTAL ENGINES, admirably suited for winding, 12 in. cylinders, metallic pistons, either with or without boilers. Also, TWO powerful DOUBLE PUMP CRABS, capable of lifting 30 tons each. Also, a WROUGHT-IRON TANK, 20 ft. x 4 ft. x 4 ft. 3/4 in. plates.—Apply, by letter, to "A. S. H." Mining Journal office, 26, Fleet-street, London.**

**STATIONARY STEAM-ENGINES OF THE BEST QUALITY, from 1 to 50-horse power, fitted with VARIABLE EXPANSION GEAR. These engines, which have been designed to combine great simplicity of parts with the utmost economy of action, are supplied with or without boilers, at the lowest possible rates; and erected, if required, in any part of the kingdom. General boiler and tank work carefully executed upon advantageous terms.**—Apply to Messrs. WILLIAM YOUNG and Co., engineers, Barnstable.

**STEAM-ENGINES AND PITWORK.—FOR SALE, BY PRIVATE CONTRACT, the following STEAM-ENGINES and PITWORK:—A 65 in. cylinder PUMPING ENGINE, 10 ft. stroke in the cylinder, and 7 ft. 9 in. in the shaft, with two boilers about 22 tons; a 24 in. cylinder stamping engine, 8 ft. stroke, with one 10 tons boiler; a 30 in. cylinder pumping engine, 9 ft. stroke in the shaft, with one 8 tons boiler; several 20 and 18 in. pumps; 19 in. working pieces, do. do. do. and windbores; 18 in. ditto; 16 in. ditto; and other large pitwork; also, 2 15 in. plunger-poles, with stuffing-boxes and glands; an excellent capstan; and numerous other things.**

J. J. GUMMOE.  
Dated Imperial Fire and Life Insurance, and National Live Stock Insurance Offices, St. Austell, Nov. 15, 1855.

**VALUABLE AND EXTENSIVE FIELD OF MINERALS, AT ECKINGTON, IN DERBYSHIRE.—TO BE LET, ON LEASE, for a term of years, ALL the very valuable MINES OF COAL and IRONSTONE under about 1400 acres of land at Eckington, in the county of Derby, a portion of the estate of Sir Sitwell Reresby Sitwell, Bart. This mineral field comprises (among others) those valuable and well-known beds of coal, called the Eckington Bed and the Back Shale, both of which are celebrated for their superior quality, and for the excellent coke they produce, and for which there is so large a demand, they are exceedingly well adapted for gas purposes, while for the eastern counties and London markets they are almost unequalled. The very moderate depth of the mines above-named throughout this estate has been fully proved by recent borings, which have also shown that the workings can be carried to almost any extent, with great advantage, and at a very moderate outlay. The coals are also very easily and cheaply wrought. The Back Shale Bed is entire under the whole extent now offered, and the borings indicate the existence of valuable mines of ironstone, which are at present unopened. The estate contains extensive quarries of building stone, and clay for the manufacture of bricks, both of excellent quality. The line of the Midland Railway and the Chesterfield Canal both run through the estate; and it has also excellent road communications in all directions.—For further particulars, or to treat for a lease, application may be made to Mr. W. BEAR, mineral agent, Alfreton, Derbyshire.**

December, 1855.

**IMPORTANT TO CONTRACTORS, CANAL COMPANIES, &c.—MR. K. and J. COUPE are NOW OPEN to ENTER INTO CONTRACTS for the SUPPLY of their PUMPS, with motive power (steam-engine), which are so simple in form, strong in construction, powerful in their effects, and moderate in price, being within two thirds of the cost of ordinary machinery for pumping. For raising and forcing large or small quantities of water from 10 ft. to 100 yards, they are unrivalled, and are, therefore, most eminently qualified for the drainage of lakes, marshes, and graving docks, &c., and the supplying of canals, fountains, &c. These pumps are of the ordinary barrel form; and this of itself is sufficient to prove their superiority over centrifugal pumps, which, under a pressure of a couple of pounds to the square inch give an average duty of 50 per cent. on the power employed, which average keeps decreasing, until, under a pressure of 14 or 60 lbs., their effective duty is so little as to render them commercially valueless. R. and J. Coupe warrant their pumps to give out 90 per cent. of the power employed, either under a pressure of 3 lbs. or 100 lbs. Lakes containing a known quantity of water drained for a fixed sum; marshes drained, and canals, &c., supplied per measurement, or the machine put down and commenced working for a specific sum.—Apply to R. and J. Coupe, Clayton Foundry, Wigan.**

N.B. As this plan of pumping requires that the engine and pump should be on the same level, it is not very appropriate for draining mines; for the draining of down brows in mines, this plan is especially suitable.

**TO ARCHITECTS, SLATE MERCHANTS, BUILDERS, AND OTHERS.**—THE DIRECTORS of the MACHO SLATE AND SHIPB COMPANY, having completed their arrangements for the REMOVAL of their SHIPB PORT to CONWAY, for the convenience of vessels unable to lower their masts to pass the tubular bridge, are now PREPARED to RECEIVE ORDERS for their justly celebrated SLABS and SLATES, from the Ffestiniog vein, which for beauty of colour and durability are unequalled.

The slabs have been largely used in the construction of houses for Australia; and from the facility with which they are erected and removed, are well adapted for movable huts for men and horses at the proposed camps in England and Ireland. All applications to be addressed to Mr. T. H. WHEELER, the resident director, at the company's offices, Conway, North Wales.

**MERCANTILE, MINING, & AGRICULTURAL LABORATORY, CONDUCTED BY W. CROWDER, F.C.S., CONSULTING AND ANALYTICAL CHEMIST, 104, SIDE, NEWCASTLE-ON-TYNE.**

Late Lecturer on Chemistry in the Newcastle College of Medicine, and formerly Assistant in the Laboratory of the Highland and Agricultural Society.

Mr. W. Crowder begs to inform such persons as are connected with Mercantile, Mining, or Agricultural pursuits, that he will be happy to perform ANALYSES and ASSAYS of every description, and to be CONSULTED upon subjects pertaining to SCIENTIFIC CHEMISTRY. A limited number of PRIVATE PUPILS are admitted to the laboratory on the following terms:—

Fee for 12 months' course of instruction, in one payment in advance..... £20 0 0  
Fee for 3 months, payment in advance..... 6 0 0

**ASSAYING.—CITY SCHOOL OF CHEMISTRY AND ASSAY OFFICE, DUNNING'S ALLEY, BISHOPSGATE STREET WITHOUT.**

Conducted by JOHN MURRELL, F.C.S., Author of *Manual of Practical Assaying*, *Manual of Agricultural Analysis*, *Treatise on the Adulteration of Food*, *Metallurgical Papers*, &c. ASSAYS and ANALYSES of MINERALS, METALS, and every manufacturing product.

SPECIAL INSTRUCTION in ASSAYING and CHEMISTRY for gentlemen intending to proceed to the colonies.

Just published, a

**BATTLE WITH THE BASALTS:**

AN ATTEMPT TO DELIVER THE CHIEF OR PRIMARY CRYSTALLINE MASSES FROM PLUTONIC DOMINION.



**TO IRONMASTERS.** JOHN PLAYER, CIVIL ENGINEER (of Newcastle, England), of the Britannia Ironworks, respectfully informs the proprietors of iron works, that the SYSTEM which he introduced in Wales in 1840, of OBTAINING THE WASTE GAS FROM HEAT STOVES, and which has since then been used more or less in some of the best iron works, has been during this year (1855) APPLIED to the BRITANNIA IRONWORKS, with the most COMPLETE SUCCESS, so that no extra fuel is required, either for generating steam for the blast engine, or heating the blast itself to 600°; and at the same time, less fuel is used in the furnace, the quality of iron produced is excellent; the top of the furnace is open, and 8 ft. diameter.

Should any ironmaster wish to alter his present arrangement, and SAVE ALL THE FUEL he now uses for his boilers and hot-blast stoves, the advertiser is ready to give plans, by which the same may be effected, and send experienced foremen to carry them out, whether for furnaces on level ground, or against a hill, and to take as a remuneration a certain portion of the saving effected in a given time. Furnaces can be altered whilst in blast.

Bergisch Gladbach, Prussia, Dec. 22, 1855.

**HARRIS'S PATENT SELF-ACTING STEAM PURIFIER.** and the great desideratum for successfully PREVENTING DEPOSITS in STEAM-ENGINE CYLINDERS (which has baffled the scientific, although it has been a subject of much moment, that it occupied for years the attention of the most eminent mechanists), is NOW SUCCESSFULLY at WORK at Plymouth Ironworks, Merthyr Tydfil, effectually separating the water and mud from the steam on one of the large horizontal engines in use at the above establishment. Since the apparatus has been in use, nothing but pure steam has entered the cylinders; and it gives great satisfaction in an economical point of view.

The PURIFIER can be let in any part of the steam-pipes, or on the boiler; and it will occupy but little room. Should it be required to keep the water in the boiler, the apparatus will keep it in or discharge it, without the loss of any steam. It will be an immense saving in the boiler to discharge the mud and water while it is in full work, especially as regards marine engines, where the boilers so often require cleaning, and less cleaning by one-half required to the boiler.

Another object gained by the STEAM PURIFIER is the considerable saving of tallow, oil, and packing, &c., as well as fuel, to say nothing of the wear and tear of machinery; but this will be further explained when parties feel disposed to treat with the patentee, informing him of the size of the steam-pipes. Any new engine, under 200-horse power, will not exceed £15 additional cost. The apparatus can be set to work on any engine in 24 hours.

As a proof that the merit and importance of this invention are properly appreciated by competent judges, we may state that Messrs. J. and C. Bailey and Co., the eminent Welsh ironmasters of Nant-y-Glo and Beaufort Works, have given a large order for the erection of these purifiers at their works; and they are highly approved of by A. Hill, Esq., Ironmaster, and Mr. James Stephens, the principal engineer.

LICENSES will be GRANTED to parties who wish to manufacture for themselves, or the patentee will furnish them on reasonable terms. Suitable to engines of any size, either locomotive or stationary.—Address, THOMAS HARRIS, engineer, Nant-y-Glo Ironworks, Monmouthshire.

**HIND'S PATENT WEIGHING MACHINERY, for RAILWAYS, HIGHWAYS, and MINES, of all powers and sizes required by purchasers; also, CRANES and TURN-TABLES, of any required size or power; and HIGH-PRESSURE STEAM-ENGINES, horizontal, vertical, or beam. Manufactured by RICHARD KITCHIN, Scotland Bank Ironworks, Warrington.**

**DONKEY ENGINES, DONKEY ENGINES, DONKEY ENGINES.**—R. and J. COUPE have in STOCK a number of their IMPROVED DONKEY ENGINES, which are so suitable to the requirements of mill owners and colliery masters, sailing and steamship proprietors, bleachers and printers, farmers, &c., for feeding boilers, as a fire engine, for slacking coals, for throwing large quantities of water for miscellaneous purposes, and for the irrigation of gardens, farms, &c.

For the satisfaction of parties requiring, R. and J. COUPE have fitted up one of these engines at their works (as below), which can be started throwing water at any hour of the day, and to which they respectively can extend. Diameter of steam cylinder, 4½ in., diameter of pump 3 in., delivering 3000 gallons per hour.—Drawings sent free by post on application to R. and J. COUPE, Clayton Foundry, Wigan.

N.B. The above donkey engines, where used for the supply of boilers, are only applicable when supplied with high-pressure steam. When low-pressure steam is applied, the pump must either be reduced to 2½ in. diam., or the steam cylinder increased to 6 in., according to the quantity of water required. We would respectfully request that, with the enquiry, parties should state the purpose for which it is required, and if for the supply of boilers, the pressure of steam used, and horse-power.

**CLAY PURIFICATION OF GAS.**—This process is APPROVED AND ADOPTED by some of the most intelligent GAS ENGINEERS in the kingdom, and their opinions are fully borne out by the investigations of Dr. Letheby and other scientific authorities. It will, no doubt, be employed in nearly every well managed gas-works; and will lead to an enlarged consumption of gas in private houses, from which it is now excluded by a fear of its impurity.—Terms of license, &c., may be obtained of Messrs. HOLLAND & CO., Huddersfield agents to the patentees. In use at the gas-works of Leeds, Preston, Huddersfield, Wakefield, West Riding County Gas Co., &c.

**THE COMBUSTION OF COAL AND THE PREVENTION OF SMOKE CHEMICALLY AND PRACTICALLY CONSIDERED.** With 140 Illustrations. By CHARLES WYLLIAMS, Assoc. Inst. C.E. W. & A. LONDON.

**NEW PATENT ACT, 1852.**—Mr. CAMPBELL, having advocated Patent Law Reform before the Government and Legislature, and in the pages of the Mining Journal, &c., is now READY TO ADVISE AND ASSIST INVENTORS IN OBTAINING PATENTS, &c., under the NEW ACT.

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**THE ENGINEERING JOURNAL:** A Weekly Record of Science, Arts, Manufactures, and Commerce; illustrated Register of British and Foreign Patented Inventions; Scientific Reporter and Review.—On SATURDAY, the 5th of January, will be published the first number of the ENGINEERING JOURNAL, a Weekly Newspaper, projected and conducted by practical Engineers. It will comprise an accurate summary of the leading Political and General Events of the week; original Essays on construction of Works Projected, in Progress, or Completed, on new Discoveries, New Manufactures, or Improved Processes; Practical Papers for Practical Men, illustrated in superior style; Reports of the Meetings of the various Scientific Institutions and Learned Societies held during the current week; also of Legislative Measures and Debates calculated to affect the interests which the Journal represents; and of trials in the courts of law concerning Patent and other cases, important to Engineers and Men of Science generally; Vacancies, Appointments, and Promotions, in the Naval and Mercantile Engineering Services, and similar notices in connection with railway and other public companies; a complete register of contracts; a progress of the Scientific Meetings of the following week; the list of bankrupts, the metal and other trade markets, &c., &c. Also an accurate list of the American and other Foreign Patent Claims, the most important of which will be fully reported and appropriately illustrated. The Engineering Journal will likewise give a correct list of all Inventions which shall have been provisionally protected in the United Kingdom in the course of the current week, as well as a complete abstract of every British Patent specified and published during the week preceding.

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All communications on the business matters of the Journal are to be addressed to Mr. Edward Jones, at the Office of Publication, 283, Strand. Order the paper through your regular Newsvendor.

**THE ENGINEER.**—The first number of a weekly publication, bearing the above title, will appear on Saturday, Jan. 5, 1856. The necessity existing for the establishment of an efficient and thoroughly independent organ, in connection with the particular sections of Industrial Manufacture to which this Journal appeals for support, is acknowledged. The title, THE ENGINEER, thus apparently suggests a restrictive, has been adopted as one more readily indicating the general character of the matter which will be found in the publication, than as an intimation that it is projected solely for Engineers recognized as a class. This Journal will be conducted upon a broad but intelligible basis, and will be found of interest not to the Engineer alone, but to all who are connected directly or indirectly with, or are interested in, the Manufacture or Application of the metals. It is designed, in fact, adequately to represent the industrial activity of the age in which we live. To carry out this intention, most valuable services have already been secured, and assistance from many of the most eminent men of the day—scientific and practical—have been received. In the columns of THE ENGINEER will be found collected Authoritative Information on subjects connected with the Useful Arts, embracing new facts, results of experiments, and more extended observations, professional papers, and official documents. The numerous "currents of Industrial Progress" will be turned into one stream, and in one periodical will be gathered together the scattered information pertaining to different departments of industry, thus concentrating intelligence, facilitating enquiry, promoting useful discussion, and forming, in the whole, a reliable and most valuable body of reference. It will be an object of the Conductors of THE ENGINEER to classify and discuss the materials obtained by and supplied to them, to furnish Systematic Expositions of particular Arts and branches of Manufacture, showing their development, relation, and dependence, and suggestions of Improvements and Modifications to which they are still open, the obstacles by which they are obstructed, and the principles upon which their advancement depends. It is not considered advisable to encumber a preliminary announcement with matters of mere detail; suffice it to add, that the following list comprises a portion of the subject matter to which the pages of THE ENGINEER will be devoted.

Original Articles upon Mechanical and Scientific subjects, contributed by writers especially conversant with the questions discussed. Reports of Industrial Progress, at home as well as abroad, in all cases prepared by competent and reliable contributors. The latest discoveries in Mechanics and Science. Inventions of real merit and importance will be fully described, and when necessary, the fallacy and inutility of others will be exposed. The Iron Manufacture, Iron Shipbuilding and Steam Navigation. Reports upon important works on Railway Engineering, Hydraulics, and of Public and Sanitary Improvements. Reports of the Scientific and other Societies. Weekly Register of Patents, and Notices important to Patentees; also carefully prepared Abstracts of all Specifications. Reviews of Scientific and Mechanical works, which will be written with fairness and independence. A portion of THE ENGINEER will be open impartially to all for the record of useful suggestions, and the insertion of correspondence upon interesting or practical subjects, and for unadmitted but friendly discussion. THE ENGINEER will be illustrated. As an advertising medium it will be unique. Price Fivepence. Stamped Sixpence. Orders will be received by all News Agents and Book-sellers in town and country; or, if preferred, it may be had direct from the Office, post free for 6s. 6d. per quarter. Subscriptions may be made payable to the publisher, Mr. Bernard LUXTON, Engineer's Office, 301, Strand, London. Letters to be addressed to the Editor.

**THE ENGINEER.**—ADVERTISEMENTS for the First Number of this Journal will be RECEIVED at the office, No. 301, STRAND, up to Eight o'clock on THURSDAY EVENING, Jan. 3. BERNARD LUXTON, Publisher.

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These patented systems are now adopted by companies owning several thousand miles of railway, are approved of by most of the eminent railway engineers, in this country and abroad, and the system of fish-jointing, in particular, has received the unqualified approval of H.M.'s Commissioners of the Board of Trade and their Inspecting Officers.

The Permanent Way Company are prepared to grant licenses on liberal terms, to Railway Companies and Manufacturers, for the use of all or any of the Patented Inventions which have for their object the safety and comfort of the travelling public, and economy in construction of the road and rolling stock.

That the objects are accomplished, the following extracts will confirm:—"There can be no doubt that the practice of Fishing the Rails, which is becoming very general, is a great element of safety; the principle cannot be too much encouraged."—Extract from Report of Col. Wynne, R.E., Chief Inspector of Railways to H.M.'s Commissioners of the Board of Trade, dated April 27th, 1851.

"My Lords direct me to observe, that they trust that the remarks of the Inspecting Officer, as to the desirability of the fish-joint being adopted to a greater extent upon the Railway, will receive the attentive consideration of the Directors."—Extract from letter of Capt. Galton, R.E., Secretary to the Railway Department of the Board of Trade, in reference to the foregoing Report.

"DEAR SIR,—In reply to your favour of the 1st inst., I beg to say that I experience no difficulty whatever in keeping the nuts of the bolts tight."—Extract from a letter by Mr. H. Woodhouse, engineer, Superintendent of the Permanent Way of the London and North-Western Railway.

"I would, however, beg to state that, in point of safety, the first and most essential element of railway working, the fish-joint, on your system is, in my opinion, indispensable."—Extract from letter of Mr. J. E. McNeill, Locomotive Engineer of the London and North-Western Railway.

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279	Black Craig (lead), Kirkcudbright	11 1/2	5	18	£15 10s. 0d.	0 15-July, 1885.
1000	Carn Brea (copper), Illogan	15	8 1/2	4	£15 10s. 0d.	0 15-July, 1885.
2018	Carnyorth (tin), St. Just	3	4 1/2	4	£15 10s. 0d.	0 15-July, 1885.
10000	Castle Gate Quarry, Dolwyddelan	1	1 1/2	1	£15 10s. 0d.	0 15-July, 1885.
260	Cefa Cwm Brynno (lead), Cardiganshire	33	10 1/2	1	£15 10s. 0d.	0 15-July, 1885.
250	Conford (copper), Gwynedd, Cornwall	78	11	9	£15 10s. 0d.	0 15-July, 1885.
240	Conderston (copper), tin, Camborne	20	18 1/2	1	£15 10s. 0d.	0 15-July, 1885.
128	Cornystwith (lead), Cardiganshire	60	120	1	£15 10s. 0d.	0 15-July, 1885.
1024	Devon Great Consols (copper), Tavistock*	1	410	405 410	£15 10s. 0d.	0 15-July, 1885.
12900	Diurade (copper), Ireland	237 1/2	90	1	£15 10s. 0d.	0 15-July, 1885.
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1024	East Wheel Margaret (tin, copper)	5 1/2	15	1	£15 10s. 0d.	0 15-July, 1885.
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494	Fowey Consols (copper), Tywardreath	40	30	1	£15 10s. 0d.	0 15-July, 1885.
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1024	Goginan (lead), Cardiganshire, Wales	8	2 1/2	1	£15 10s. 0d.	0 15-July, 1885.
10000	Great Consols (copper), St. Austell	15 1/2	30	27 1/2	£15 10s. 0d.	0 15-July, 1885.
11750	Great Polgoth (tin), St. Austell	4 1/2	1 1/2	2	£15 10s. 0d.	0 15-July, 1885.
10000	Great South Toluca	2 1/2	6	1	£15 10s. 0d.	0 15-July, 1885.
2686	Great Wheel Vor (tin, copper), Helston	5	5	4 1/2	£15 10s. 0d.	0 15-July, 1885.
119	Great Work (tin), Gernoe	100	120	1	£15 10s. 0d.	0 15-July, 1885.
1024	Herodfoot (lead), near Liskeard	6 1/2	8	1	£15 10s. 0d.	0 15-July, 1885.
6000	Hillingdon Down Consols (copper), Calstock	3 1/2	8	1	£15 10s. 0d.	0 15-July, 1885.
2000	Holyford (copper), near Tiptary	11	7 1/2	1	£15 10s. 0d.	0 15-July, 1885.
76	Jamalea (lead), Mold, Flintshire	31 13s. 6d.	—	—	£15 10s. 0d.	0 15-July, 1885.
2018	Kennedy (copper), Breage	6s. 7d.	—	—	£15 10s. 0d.	0 15-July, 1885.
755	Kirkcudbrightshire (lead), Kirkcudbright	0 1/2	—	—	£15 10s. 0d.	0 15-July, 1885.
20	Laxey Mining Company, Isle of Man	100	1000	—	£15 10s. 0d.	0 15-July, 1885.
100	Levan (copper), tin, St. Austell	2 1/2	120	—	£15 10s. 0d.	0 15-July, 1885.
400	Lisourne (lead), Cardiganshire, Wales	18 1/2	150	—	£15 10s. 0d.	0 15-July, 1885.
320	Machno State and Slab Company	25	29	—	£15 10s. 0d.	0 15-July, 1885.
160	Ditto (New Shares)	18 1/2	29 1/2	—	£15 10s. 0d.	0 15-July, 1885.
6000	Marke Valley (copper), Cardigan	47 10s. 6d.	4 1/2	—	£15 10s. 0d.	0 15-July, 1885.
5000	Mendip Hills (lead), Somerset	3 1/2	2	—	£15 10s. 0d.	0 15-July, 1885.
5000	Merilyn (lead), Flint	2 1/2	1 1/2	—	£15 10s. 0d.	0 15-July, 1885.
2000	Mining Co. of Ireland (copper, lead, coal)	7 1/2	14 1/2	13 1/2	£15 10s. 0d.	0 15-July, 1885.
5000	Nantes and Penrhyn	1 1/2	1 1/2	—	£15 10s. 0d.	0 15-July, 1885.
7500	Nantlle Vale (lead), Llanfyllin	1	1 1/2	—	£15 10s. 0d.	0 15-July, 1885.
6000	Nether Heath, Westmoreland	2s.	1 1/2	—	£15 10s. 0d.	0 15-July, 1885.
470	Newtown, Westmoreland, Co. Down	50	120	—	£15 10s. 0d.	0 15-July, 1885.
140	North Pool (copper), tin, Pool	22 1/2	150	—	£15 10s. 0d.	0 15-July, 1885.
140	North Rosebar (copper), Camborne	10	70	—	£15 10s. 0d.	0 15-July, 1885.
6000	North Wheel Bassett (copper, tin), Illogan*	nif.	43	41 42	£15 10s. 0d.	0 15-July, 1885.
6000	Par Consols (copper), tin, St. Austell	1 1/2	18 1/2	18 1/2	£15 10s. 0d.	0 15-July, 1885.
6000	Peak United (lead), North Derbyshire	7 1/2	11	—	£15 10s. 0d.	0 15-July, 1885.
2000	Phenix (copper), tin, Llanfyllin	30	60 1/2	—	£15 10s. 0d.	0 15-July, 1885.
1000	Polberro (tin), St. Agnes (Preferential)	15	—	—	£15 10s. 0d.	0 15-July, 1885.
562	Providence Mines (tin), Uny Lelant	20 13s. 2d.	50	—	£15 10s. 0d.	0 15-July, 1885.
512	Rosewarne United (copper, tin), Gwincar	12	155	132 1/2 135	£15 10s. 0d.	0 15-July, 1885.
250	Routa Caradon (copper), St. Austell	2 1/2	295	300 310	£15 10s. 0d.	0 15-July, 1885.
128	South Consols (copper), tin, St. Austell	19	40 1/2	—	£15 10s. 0d.	0 15-July, 1885.
9900	South Tamar (silver-lead), Beaufort	17 6s. 6d.	0 1/2	180	£15 10s. 0d.	0 15-July, 1885.
274	South Toluca (copper), Redruth, Cornwall	16	35 1/2	380	£15 10s. 0d.	0 15-July, 1885.
496	South Wheel Margaret (tin, copper), Illogan*	18s. 9d.	33 1/2	—	£15 10s. 0d.	0 15-July, 1885.
1024	Spernase Consols (tin), St. Just, Cornwall	1 1/2	2	—	£15 10s. 0d.	0 15-July, 1885.
1024	Spernase Moor (copper), St. Just	23 1/2 8d.	—	—	£15 10s. 0d.	0 15-July, 1885.
1024	St. Aubyn and Grylls (cop. tin), Breage, St. Austell	3 1/2	—	—	£15 10s. 0d.	0 15-July, 1885.
94	St. Ives Consols (tin), St. Ives	80	100	—	£15 10s. 0d.	0 15-July, 1885.
6000	Tamar Consols (silver-lead), Brecon	4 1/2	3 1/2	—	£15 10s. 0d.	0 15-July, 1885.
6000	Tincoft (copper), tin, near Pool, Illogan	9	4 1/2	4 1/2	£15 10s. 0d.	0 15-July, 1885.
2048	Trehan (silver-lead), Menheniot	11 1/2	25	—	£15 10s. 0d.	0 15-July, 1885.
572	Trevelyan Consols (tin), Gwennap	32 1/2	32 1/2	—	£15 10s. 0d.	0 15-July, 1885.
96	Trevelyan (copper), tin, Gwennap	10 1/2	16	—	£15 10s. 0d.	0 15-July, 1885.
1200	Trevelyan (copper), tin, Gwennap	10 1/2	16	—	£15 10s. 0d.	0 15-July, 1885.
10000	Trevelyan (silver-lead), Boscawen	1	—	—	£15 10s. 0d.	0 15-July, 1885.
4096	Trevelyan (silver-lead), Menheniot, Cornwall	2	3 1/2	—	£15 10s. 0d.	0 15-July, 1885.
100	Trumpet Consols (tin), near Helston	95	90	—	£15 10s. 0d.	0 15-July, 1885.
400	United Mines (copper), Gwennap	40	275	260	£15 10s. 0d.	0 15-July, 1885.
20000	Vale of Towy (lead), Llangunllo, Carmarthen	1 1/2	1 1/2	—	£15 10s. 0d.	0 15-July, 1885.
1024	Wellington (copper), tin, Perranuthnoe	8 1/2	9	—	£15 10s. 0d.	0 15-July, 1885.
10000	Welsh Pool (silver-lead), Tal-y-bont, Card.	5	9	—	£15 10s. 0d.	0 15-July, 1885.
2500	Ditto	2	3 1/2	—	£15 10s. 0d.	0 15-July, 1885.
6000	West Bassett (copper), Illogan*	20	37 1/2	37 1/2	£15 10s. 0d.	0 15-July, 1885.
250	West Caradon (copper), Liskeard	20	65 1/2	132 1/2 135 1/2	£15 10s. 0d.	0 15-July, 1885.
1024	West Darnley (copper), Gwennap	10 1/2	14	—	£15 10s. 0d.	0 15-July, 1885.
400	West Providence (tin), St. Erth	38 1/2	200	—	£15 10s. 0d.	0 15-July, 1885.
1228	West Wheel Seta (copper), Camborne	7	7 1/2	7 1/2	£15 10s. 0d.	0 15-July, 1885.
240	Wheel Arthur (copper), Calstock	0 1/2	410	410	£15 10s. 0d.	0 15-July, 1885.
512	Wheel Bassett (copper), Illogan*	5 1/2	620	610	£15 10s. 0d.	0 15-July, 1885.
250	Wheel Buller (copper), Redruth	5 1/2	10 1/2	—	£15 10s. 0d.	0 15-July, 1885.
1024	Wheel Charles (copper), Breage	3 1/2	620	—	£15 10s. 0d.	0 15-July, 1885.
250	Wheel Clifford (copper), Gwennap	620	—	—	£15 10s. 0d.	0 15-July, 1885.
5700	Wheel Foxmouth and Adams United	47 14s.	8	—	£15 10s. 0d.	0 15-July, 1885.
6000	Wheel Fosse, Bodmin	1 1/2	110	—	£15 10s. 0d.	0 15-July, 1885.
128	Wheel Friendship (copper), Devon	110	—	—	£15 10s. 0d.	0 15-July, 1885.
6000	Wheel James (iron, copper), Roche	12 1/2	8	—	£15 10s. 0d.	0 15-July, 1885.
512	Wheel Jane (silver-lead), Kea	3 1/2	12	12 1/2	£15 10s. 0d.	0 15-July, 1885.
1024	Wheel Kitty (tin), Uny Lelant	3 1/2	30	—	£15 10s. 0d.	0 15-July, 1885.
430	Wheel Lelant (tin), Wenen	30	11 1/2	17 1/2	£15 10s. 0d.	0 15-July, 1885.
112	Wheel Margaret (tin), Uny Lelant	79	125	—	£15 10s. 0d.	0 15-July, 1885.
512	Wheel Mary Ann (lead), Menheniot	7 1/2	36	37 1/2	£15 10s. 0d.	0 15-July, 1885.
80	Wheel Orville, St. Just, Cornwall	70	280	—	£15 10s. 0d.	0 15-July, 1885.
240	Wheel Reeth (tin), Uny Lelant	24 1/2	11 1/2	17 1/2	£15 10s. 0d.	0 15-July, 1885.
198	Wheel Seta (tin, copper), Camborne	10 1/2	26	27 1/2	£15 10s. 0d.	0 15-July, 1885.
520	Wheel Trevelyan (silver-lead), Liskeard	9 1/2	3	—	£15 10s. 0d.	0 15-July, 1885.
1024	Wheel Trevelyan (tin, copper), Gwincar	17 1/2	9 1/2	—	£15 10s. 0d.	0 15-July, 1885.
4096	Wheel Wrey (lead), St. Ives	11 1/2	28	27	£15 10s. 0d.	0 15-July, 1885.
5000	Wicklow (copper), Wicklow	28	27	21 1/2	£15 10s. 0d.	0 15-July, 1885.

## FOREIGN MINES.

Shares.	Name.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
5000	Alten Mining Company (copper), Norway	£14 1/2	3	—	£15 10s. 0d.	0 15-July, 1885.
5700	Baden, Grand Duchy of	2 1/2	1 1/2	—	£15 10s. 0d.	0 15-July, 1885.
10000	Brazilian Imperial (gold), Brazil	26	140	—	£15 10s. 0d.	0 15-July, 1885.
12000	Burra Burra (copper), South Australia	40	68	65 69	£15 10s. 0d.	0 15-July, 1885.
100000	Cobro Copper Company (copper), Cuba	1	20	19 20	£15 10s. 0d.	0 15-July, 1885.
10000	Coloan Gold, Australia	1	16	16	£15 10s. 0d.	0 15-July, 1885.
10000	Copago Mining Company (copper), Chili	16	20	16 16	£15 10s. 0d.	0 15-July, 1885.
20000	General Min. Assoc. (iron, coal), Nova Scotia	20	7 1/2	7 1/2	£15 10s. 0d.	0 15-July, 1885.
10000	Linares (lead), Pozo Ancho, Spain	10000	3	1 1/2	£15 10s. 0d.	0 15-July, 1885.
10000	Lustanian (of Portugal)	1 1/2	—	—	£15 10s. 0d.	0 15-July, 1885.
19315	Marquis de Paredes, Canada	1	—	—	£15 10s. 0d.	0 15-July, 1885.
30000	Oberhof (lead), Nassau	1	—	—	£15 10s. 0d.	0 15-July, 1885.
25000	Particular Mining Company	1	—	—	£15 10s. 0d.	0 15-July, 1885.
10000	Pontgibaud (silver-lead), France	20	14	—	£15 10s. 0d.	0 15-July, 1885.
7000	Royal Santiago (copper), Cuba	12 1/2	4 1/2	4 1/2	£15 10s. 0d.	0 15-July, 1885.
101000	San Fernando (silver-lead), Linares	1	29	27 29	£15 10s. 0d.	0 15-July, 1885.
11000	St. John del Rey (gold), Brazil	1	4 1/2	4 1/2	£15 10s. 0d.	0 15-July, 1885.
43174	United Mexican (silver), Mexico	—	—	—	£15 10s. 0d.	0 15-July, 1885.
70000	Waller (gold), Goochland, Co. Virginia	1	—	—	£15 10s. 0d.	0 15-July, 1885.
3000	Mexican and South American Smelting Co.	9	6 1/2	5 1/2 5 1/2	£15 10s. 0d.	0 15-July, 1885.
18079	North British Australian	1	—	—	£15 10s. 0d.	0 15-July, 1885.

## NON-DIVIDEND FOREIGN MINES.

Shares.	Name.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
75000	Adelaide Land and Gold Comp.	2	—	—	£15 10s. 0d.	0 15-July, 1885.
25000	Almaden (silver-lead), Spain	1	1 1/2	1 1/2	£15 10s. 0d.	0 15-July, 1885.
50000	Chanceryville Freehold	1	—	—	£15 10s. 0d.	0 15-July, 1885.
54300	Coloan Mining Company	1	—	—	£15 10s. 0d.	0 15-July, 1885.
124100	Fort Bowen, New Granada	1 1/2	—	—	£15 10s. 0d.	0 15-July, 1885.
130000	Gladbach (silver-lead) Rhens Pruss.	1	—	—	£15 10s. 0d.	0 15-July, 1885.
20000	Linares (lead), Spain	1	—	—	£15 10s. 0d.	0 15-July, 1885.

## MINES WHICH HAVE SOLD ORES.

Shares.	Names.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
1024	Aberdovey (lead), Merioneth	2 1/2	7	—	£15 10s. 0d.	0 15-July, 1885.
2000	Anglesea Coal Company	7	7	—	—	—
900	Balncony Con. (tin), Yny Lelant	3 1/2	—	—	—	—
4000	Bell-wickden United	1	—	—	—	—
12000	Burgoyne (lead), Wicklow	1	—	—	—	—
4000	Ballygarry, Co. Clare	£1 14	2 1/2	—	—	—
5000	Barytes Company of Ireland	1	—	—	—	—
3000	Basset Graze United (cop.), Kea	2	6	—	—	—
4000	Bedford Consols	11	3 1/2	—	—	—
500	Bell and Llanartha	11	5 1/2	5	—	—
7000	Beckerton United, Devon	—	—	—	—	—
5000	Bodwel, South Wales	£1 1/2	3 1/2	—	—	—
1000	Bohing Well (copper)	11	19	17 1/2	—	—
4000	Boringdon Consols, Plympton	4 1/2	—	—	—	—
2000	Boscan (tin), St. Just	—	95	90 93 1/2	—	—
1000	Bottle Hill (copper), Wales	4 1/2	—	—	—	—
125	Britannia, Llanarmon	£7 19 6	15	—	—	—
4000	Brynmoid (lead), Wales	19s. 9d.	—	—	—	—
100	Brynmoid Hill (lead), Flint	20	65	—	—	—
1000	Bryntall, Llanidloes, Montgom.	—	8 1/2	7 1/2 8 1/2	—	—
120	Bucknell Consols (Cerrig)	2 1/2	—	—	—	—
6000	Builer and Builer, United	1 1/2	5 1/2	—	—	—
2000	Bwlch (sil-lead), Cardiganshire	4	5	4 1/2 4 1/2	—	—
6000	Cae-gwyn (gold), Merioneth	—	1	—	—	—
5000	Cae-Cynon, Cardiganshire	10s. 6d.	—	—	—	—
1024	Cae-philly & Carrinon, S. Wales	—	2 1/2	—	—	—
2000	Carrington (tin), Gwynedd	—	2 1/2	—	—	—
2344	Carrick Consols (copper), Con.	4 1/2	—	—	—	—
2745	Calstock United (tin and cop.),	£3 8	—	—	—	—
1000	Camborne Consols	—	—	—	12	—
6000	Cannwydd (lead, copper)	—	—	—	6	—
1024	Cardelon Consols, St. Cleer	—	—	—	—	—
239	Cargoll, Newlyn	25	50	—	—	—
50000	Carnarvonshire Slate	—	1 1/2	—	—	—
5000	Carnawas (lead, cop.), Mawgan	—	1	—	1	1/2
10000	Caroline Wheel Prosper	—	—	—	—	—
1000	Carrog-hog (cop. lead), S. Devon	—	—	—	—	—
1055	Caunnall (copper), Gwennap	11	9 1/2	9 1/2	—	—
6400	Carvath United, St. Austell	—	2 1/2	6 1/2	—	—
256	Catharine and Jane Consols	—	—	—	—	—
6000	Cayan, North Wales	£2 5	2 1/2	—	—	—
2550	Christopher Cons., (tin), Olney	—	—	—	5	—
2000	Clara (lead), Cardiganshire	£1 5 6	—	—	—	—
1024	Clijah & Wentworth (tin, cop.),	15 1/2	15 1/2	16 1/2 1	—	—
3000	Cloance Wood, Gwinear	—	8 1/2	—	—	—
2000	Cod Mawr Pool (lead), Llanwrst	6 1/2	—	—	—	—
1000	Collacombs (copper)	—	10	42	—	—
10000	Connemara (sil-lead), S. Wales	—	—	—	—	—
1000	Cook's Kitchen, Illogan	£15 18 9	5	—	—	—
20000	Coosheen (copper), Cork	—	1	—	—	—
1055	Cradraig Moor (cop.), St. Cleer	8	39	—	—	—
30000	Craigaur (cobalt and nickel)	—	16d.	—	—	—
600	Craip-y-Mwyn (lead), Llanrhadr	—	8 1/2	—	—	—
12000	Cross-gill and Co.	—	1 1/2	—	—	—
6400	Crow Hill, St. Stephen's	—	—	—	—	—
9000	Cubart (silver-lead), Cornwall	—	2 1/2	—	—	—
10000	Cwm Darren (lead), Cardigansh.	14s.	—	—	—	—